



CITY OF KRANJ

Digital Development Strategy of the City of Kranj 2032

Date: 10 June 2026

Document title: Digital Development Strategy of the City of Kranj 2032

Responsible person: Matjaž Rakovec, Mayor of the City of Kranj

Working group: Tomaž Lanišek, Ana Vizovišek, Rok Harter, Boštjan Berčič, Taja Huter

Date of preparation: 10 June 2026

Publisher:



CITY OF KRANJ

Website: www.kranj.si
Contact email: mok@kranj.si
Telephone: 04 23 73 000
Publisher's registered office: Slovenski trg 1, 4000 Kranj
Year of issue: 2026

Confirmed at the 32. City council meeting of City of Kranj, 17.06.2026



Table of contents

List of abbreviations.....	7
Executive summary	9
1 Introduction.....	11
2 Methodology.....	14
2.1 Analysis of the current situation and challenges	15
2.1.1 Review of existing strategic documents.....	15
2.1.2 Overview of completed and ongoing projects in the field of digitalisation	16
2.1.3 Overview of the urban environment.....	16
2.1.4 Review of strategic documents at national, regional and EU level.....	18
2.1.5 Review of good practices.....	19
2.2 Formulating the digital strategy concept: strategic pillars, programmes and projects	20
2.2.1 The four pillars of digital transformation.....	20
2.2.2 Programmes as the core units of the strategy	21
2.2.3 Projects as the implementation level of the strategy	21
2.2.4 Performance indicators and progress monitoring	22
2.2.5 Digital strategy KPIs.....	22
2.2.6 Vertical programmes and horizontal links.....	24
2.3 Strategic programmes, projects and KPIs	25
2.3.1 Structure of strategic programmes.....	25
2.3.2 Linking projects to KPIs.....	25
2.3.3 Prioritisation of projects.....	26
3 Strategic pillars, programmes and projects.....	27
3.1 Interconnections between the pillars, programmes and projects of digital transformation.....	27
3.1.1 Matrix showing the links between programmes and the pillars of the digital transformation	27



3.1.2 Prioritisation of strategic projects and programmes.....	28
3.1.3 Proposal for the phased implementation of programmes and projects.....	30
3.2 Pillar 1: Digital Foundations.....	32
3.2.1 Analysis of the current situation	32
3.2.2 Pillar objectives.....	40
3.2.3 Strategic programmes.....	41
3.2.4 Details of strategic programmes.....	43
3.3 Pillar 2: Digital Services and Society.....	50
3.3.1 Analysis of the current situation	50
3.3.2 Objectives of the pillar	52
3.3.3 Strategic programmes.....	54
3.3.4 Details of strategic programmes.....	55
3.4 Pillar 3: Digital Governance and Operations.....	62
3.4.1 Analysis of the current situation	62
3.4.2 Pillar objectives.....	64
3.4.3 Strategic programmes.....	66
3.4.4 Details of strategic programmes.....	68
3.5 Pillar 4: Digital Economy and Ecosystem.....	73
3.5.1 Analysis of the current situation.....	73
3.5.2 Pillar objectives.....	75
3.5.3 Strategic programmes.....	77
3.5.4 Details of strategic programmes.....	78
3.6 Horizontal links in the digital transformation.....	82
3.6.1 Horizontal link 1: Link with the City of Kranj's Sustainable Urban Strategy	82
3.6.2 Horizontal link 2: The digital strategy's contribution to the green transition	86
3.6.3 Horizontal Link 3: Change Management in the MOK's Digital Transformation.....	89



Appendix 1: Overview of the existing strategy, KPIs and projects	104
1.1 Development opportunities for the city's digital development	104
1.2 Challenges	105
1.3 Risks	106
1.4 Operational objectives	108
1.5 Measures	110
1.6 KPIs	112
1.7 Existing projects and digital solutions of the City of Kranj	113
2 Overview of the urban environment	115
2.1 Analysis of company size in the region	115
2.2 Analysis by sector	116
3 Strategic documents	119
4 Review of other cities' digital strategies	121
4.1 Lessons learnt from other cities' strategies	121
Appendix 2: Analysis of feedback from citizens	123
1 Quantitative results	123
2 Qualitative results: main themes from the open-ended responses	126
Appendix 3: Analysis of staff feedback on pillars 1 and 2	128
1 Purpose and scope of the analysis	128
2 Key insights for Pillar 1: Digital economy and ecosystem	128
3 Key insights for Pillar 2: Digital services and society	129
4 Most frequently highlighted needs	130
5 Linking feedback to strategy projects	131
Appendix 4: Analysis of staff feedback regarding pillars 3 and 4	133
1 Purpose and scope of the analysis	133
2 Key insights for Pillar 3: Digital foundations	133
3 Key insights for Pillar 4: Digital management and operations	134
4 Most frequently highlighted needs	136



5 Linking feedback to strategy projects.....	137
6 Priority areas identified from feedback.....	139



List of abbreviations

Abbreviation	Full name
AED	Automated external defibrillator
AI	Artificial intelligence
API	Application Programming Interface
AR	Augmented reality
AVL	Automatic vehicle tracking
BSC Kranj	Kranj Business Support Centre
DPIA	Data Protection Impact Assessment
DSD	Digital Services and Society
DT	Digital Foundations
EIF	European Interoperability Framework
EU	European Union
GARS	Fire and Rescue Service
GC	Gorenjska Centre
GDPR	General Data Protection Regulation
GIS	Geographic Information Centre
ICT	Information and Communication Technologies
IoT	Internet of Things
ISO	International Organisation for Standardisation
IT	Information Technology
JPP	Public transport
KPI	Key Performance Indicator
LEAG	Gorenjska Local Energy Agency
LLM	Large Language Model
LUK	Kranj Adult Education Centre
MPP	Urban public transport
MOK	Kranj City Council
SMEs	Small and medium-sized enterprises
NFC	Near Field Communication
NRP	Development Programme Plan
OPN	Municipal Spatial Plan
OVE	Renewable energy source
PC Kranj	Kranj Business Centre
PISO	Spatial Information System for Municipalities
PIZ	Pre-investment concept for the project 'Introduction of digital solutions and modern technologies to promote sustainable mobility in the City of Kranj'
PM	Project management
PMO	Project Office
QR	Quick Response Code
SIPARK	National Parking Platform
SLA	Service Level Agreement
SVIT	National Programme for Screening and Early Detection of Colorectal Cancer



TIP	Talent, Innovation and Entrepreneurship Platform
SI-TRUST	National Centre for Trust Services
TUS	MOK Sustainable Urban Strategy
TUS+	MOK Sustainable Urban Strategy 2030+
UGDP	Office for Economic Activities and Transport
VR	Virtual Reality
Lifelong Learning Network	Lifelong Learning Network





Executive summary

The impact of the City of Kranj's Digital Development Strategy 2032 on target groups:

Target group	Objectives of the digital strategy	What the strategy delivers
Citizens	➤ Integrating key municipal services into a more unified user experience ➤ Promoting sustainable mobility through digital services ➤ Upgrade public transport and multimodal services ➤ Expand the use of CeKR as a city-wide identification, payment and service point ➤ Ensure digital accessibility for different user groups ➤ Strengthen citizen participation, communication and digital inclusion	Easier access to city services, better information, more digital opportunities for participation, and improved services in the areas of mobility, health, sport, culture and local amenities.
Businesses	➤ Strengthen the local innovation ecosystem for smart city development ➤ Develop data as a tool for local economic development ➤ Establish a clear model for cooperation with external infrastructure and data operators ➤ Encourage pilot projects, test environments and the transfer of best practice into regular operations ➤ Increase the economic value of digital solutions ➤ Strengthen Kranj's profile as a benchmark smart city	More transparent access to urban challenges, opportunities for pilot projects, collaboration with the City of Kranj, greater visibility of local offerings, a better data environment and opportunities for the development of GovTech solutions.
Non-governmental organisations, associations and communities	➤ Ensuring digital accessibility for different user groups ➤ Strengthen citizens' participation, awareness and digital inclusion ➤ Strengthen the digital skills of employees and users ➤ Strengthen the local innovation ecosystem for smart city development	Better digital channels for information, participation, volunteering, local initiatives, events, youth engagement and working with local communities.
Public administration and public institutions	➤ Establish a common architecture for the 'Smart Kranj' digital platform ➤ Establish a unified register of digital assets, applications, data sources and administrators ➤ Standardise data links and integrations ➤ Enable real-time data for decision-making and user services ➤ Ensure cyber security, personal data protection and system resilience ➤ Establish central coordination of MOK's digital development ➤ Clearly define ownership, management and responsibilities for digital assets ➤ Establish portfolio management of digital projects ➤ Establish a system for monitoring the impact of digital solutions ➤ Strengthen the digital skills of staff and users ➤ Ensure long-term maintenance, upgrades and the financial sustainability of solutions	Better data for decision-making, digitised processes, less manual work, improved project collaboration, AI support, greater security and clearer monitoring of outcomes.

Strategy implementation plan

Stebri	DT: Digitalni temelji	DSD: Digitalne storitve in družba	DUO: Digitalno upravljanje in operacije	DGE: Digitalno gospodarstvo in ekosistem
Cilji	Cilj 11: Vpostaviti skupno arhitekturo digitalne platforme Pametni Kranj Cilj 12: Vpostaviti enoten register digitalnih sredstev, aplikacij, podatkovnih virov in upravljalcev Cilj 13: Standardizirati podatkovne povezave in integracije Cilj 14: Omogočiti podatke v realnem času za odločanje in uporabniške storitve Cilj 15: Vpostaviti podatkovne temelje za trajnostno mobilnost Cilj 16: Zagotoviti kibernetsko varnost, varstvo osebnih podatkov in odpornost sistemov Cilj 17: Postopno razvijati podatkovni prostor pametne skupnosti	Cilj 21: Povezati ključne mestne storitve v enotnejšo uporabniško izkušnjo Cilj 22: Spodbujati trajnostno mobilnost z digitalnimi storitvi Cilj 23: Nadgraditi storitve za javni potniški promet in multimodalnost Cilj 24: Razširiti uporabo CeKR kot mestne identifikacijske, plačilne in storitvene točke Cilj 25: Zagotoviti digitalno dostopnost za različne skupine uporabnikov Cilj 26: Krepijo participacijo, obveščanje in digitalno vključenost občanov	Cilj 31: Vpostaviti centralno koordinacijo digitalnega razvoja MOK Cilj 32: Jasno določiti lastništvo, upravljanje in odgovornosti za digitalna sredstva Cilj 33: Vpostaviti portfeljsko upravljanje digitalnih projektov Cilj 34: Uvesti enotne standarde za javna naročila digitalnih rešitev Cilj 35: Vpostaviti sistem spremljanja učinkov digitalnih rešitev Cilj 36: Okrepiti digitalne kompetence zaposlenih in uporabnikov Cilj 37: Zagotoviti dolgoročno vzdrževanje, nadgradnje in finančno vzdržnost rešitev Cilj 38: Povezati digitalno upravljanje z zelenim prehodom in podnebno nevtralnostjo	Cilj 41: Okrepiti lokalni inovacijski ekosistem za razvoj pametnega mesta Cilj 42: Razviti podatke kot razvojno sredstvo lokalnega gospodarstva Cilj 43: Vpostaviti jasn model sodelovanja z zunanjimi upravljavci infrastrukture in podatkov Cilj 44: Spodbujati pilotne projekte, testna okolja in prenos dobrih praks v redno delovanje Cilj 45: Povečati gospodarsko vrednost digitalnih rešitev Cilj 46: Okrepiti prepoznavnost Kranja kot referenčnega pametnega mesta
Programi in projekti	DT1: Mestna podatkovna platforma, odprti podatki in dashboard - DT1.1: Mestna podatkovna platforma, odprti podatki in prehod v podatkovno vodeno upravljanje - DT1.2: Katalog internih podatkovnih virov, podatkovno upravljanje in enotna obdelava podatkov - DT1.3: Skupni dashboardi za strateške cilje, projekte, kazalnike in javne mestne podatke DT2: Digitalni dvojček, GIS in podatkovno podprto odločanje - DT2.1: Digitalni dvojček Kranja, digitalni dvojčki storitev in eProstor - DT2.2: GIS in javni zemljevidi za mobilnost, dostopnost, pešpoti, kolesarsko omrežje in urbano infrastrukturo DT3: Mestna IoT, senzorika in pametna urbana oprema - DT3.1: Pametna urbana oprema: Wi-Fi točke, pametne klop, pametna postajališča/avtobusi in QR transparentnost senzorjev - DT3.2: 5G in gigabitna infrastruktura kot podlaga za IoT, pilote in nove digitalne storitve - DT3.3: Digitalna platforma za vodenje intervencij ter senzorika za naravnega tveganja in javno varnost DT4: Pametna mobilnost, promet in parkiranje - DT4.1: Digitalna vertikalna trajnostne mobilnosti oziroma MaaS/multimodalni moduli v Pametnem Kranju - DT4.2: Digitalni prometni servis za dovolilnice, zapore in realnočasovne mobilnostne informacije - DT4.3: Pametno parkiranje: digitalni kataster, SIPARK, senzorji, rezervacije in plačila parkiršč - DT4.4: Digitalna podpora JPP: štetje potnikov, IT oprema, podatkovno prilagajanje linij in frekvenc - DT4.5: Podatki o prometnih tokovih, senzorika cestne varnosti in zeleni val za reševalce, gasilce ter avtobuse - DT4.6: Modul KrsKOLESOM, mikromobilnost ter digitalni zemljevidi hoje in kolesarjenja - DT4.7: Piloti napredne mobilnosti in varnosti: e-kombi z digitalno podporo, AED z droni, samovozeče/dostavne rešitve DT5: Pametno okolje, voda, energija in odpadki - DT5.1: Pametno upravljanje odpadkov: senzorika zabojnikov, optimizacija poti, tehtanje, obračun in e-naročanje odvoza - DT5.2: Pametna in adaptivna javna razsvetljava kot inteligentna mestna infrastruktura - DT5.3: Okoljsko-vodna senzorika: pretok in čistost voda, mikroplastika, hrup, zrak in javni prostori - DT5.4: Digitalni spremljanje rabe energije, vode in anomalij v gospodinjstvih ter javnih objektih	DSD1: Pametni Kranj – enotna digitalna vstopna točka - DSD1.1: Enotna vstopna točka Pametni Kranj: storitve, dokumenti, rezervacije, plačila, QR in DigVEM - DSD1.2: Digitalno okno občana za komunalne in mestne storitve v realnem času, zahtevke, e-račune in obveščanje - DSD1.3: CeKR kot plačilno-lojalnostni ekosistem DSD2: Digitalna komunikacija, obveščanje in personalizirane vsebine - DSD2.1: Enotno segmentirano obveščanje, alarmiranje in krizna komunikacija - DSD2.2: Personalizirane vsebine in komunikacija za uporabo digitalnih mestnih storitev DSD3: Digitalna participacija, krajevne skupnosti in prostovoljstvo - DSD3.1: Digitalna platforma za participacijo, ideje, ankete, made in soustvarjanje občanov - DSD3.2: Digitalna podpora krajevnim skupnostim, prostovoljstvu in mestnim izzvom DSD4: Digitalno zdravje, šport in aktivno življenje - DSD4.1: Lokalna podpora za uporabo digitalnih zdravstvenih storitev in povezovanje z zVEM - DSD4.2: Digitalni portal in upravljanje športnih objektov, programov, prijav, rezervacij, plačil in podatkov - DSD4.3: Aplikacija za aktivno življenje, spodbude, športne partnerje in podatke o zdravju prehrani v javnih zavodih DSD5: Digitalni turizem, kultura, lokalna ponudba in mestne ugodnosti - DSD5.1: Digitalna kulturno-turistična platforma: dogodki, vstopnice, QR točke, audio/VR vodenje in digitalni muzeji - DSD5.2: Lokalni marketplace oziroma e-tržnica za ponudnike, izvajalce in lokalno ponudbo - DSD5.3: Digitalni sistem mestnih ugodnosti, turistične kartice in ugodnosti za šport, kulturo ter knjižnico	DUO1: Kibernetska varnost, zasebnost in digitalno zaupanje - DUO1.1: Enotna politika kibernetske varnosti, zasebnosti in digitalnega zaupanja za MOK in povezane osebe - DUO1.2: Penetracijski testi, varnostna validacija Pametnega Kranja, dobaviteljev in kritičnih sistemov DUO2: Digitalno delovno okolje in projektno sodelovanje MOK - DUO2.1: Enotno digitalno projekt, dokumentno in sodelovalno okolje MOK - DUO2.2: Integrirani interni self-service procesi: Codeka, potni nalogi, vozila in rezervacija resursov DUO3: Optimizacija internih procesov in elektronsko poslovanje - DUO3.1: Digitalizacija javnih naročil, nabave komisije, evidenčnih naročil in strateškega GovTech naročanja - DUO3.2: Občinska procesna platforma z AI podporo za dovolilnice, mnenja, soglasja in razvojne postopke - DUO3.3: eHroračun, e-poslovanje in poenostavitve procesov Cadis, GC ter ZKP - DUO3.4: E-inspekcija in digitalizacija inspekcijskih ter prekrškovnih postopkov - DUO3.5: Digitalna operativna platforma redarstva za prijave, prekrške, teren in koordinacijo služb - DUO3.6: Digitalna podpora šolskim administrativnim procesom in naročanju storitev za dejavnosti DUO4: AI podpora zaposlenim in interni LLM - DUO4.1: Interni LLM in AI asistent za zaposlene MOK - DUO4.2: Program rednega usposabljanja zaposlenih za AI in GovTech orodja - DUO4.3: Operativni okvir za odgovorno uporabo AI, podatkov in lokalno AI upravljanje - DUO4.4: AI in prediktivna analitika za mobilnost, okolje in energijo DUO5: Digitalne kompetence, onboarding in organizacijski razvoj MOK - DUO5.1: Model digitalnih kompetenc, posodobitev vlog in razvoj kadrov MOK - DUO5.2: Digitalni onboarding, mentorstvo in e-učna baza za procese MOK	DGE1: Promocija digitalnih projektov, AI in mestnih priložnosti - DGE1.1: Javni portfelj digitalnih projektov MOK, top projekti in prikaz napredka - DGE1.2: Promocijski dogodki, kampanje in večkanalno komuniciranje za AI ter digitalne storitve DGE2: Sodelovanje MOK z lokalnim gospodarstvom - DGE2.1: Platforma za sodelovanje MOK z lokalnim gospodarstvom pri razvoju digitalnih mestnih storitev - DGE2.2: GovTech tržnica, skladnost in dobaviteljski ekosistem za odkrivanje ter uveljavljanje rešitev DGE3: Startup, scaleup, deeptech in 5G ekosistem - DGE3.1: Kranj kot living lab/testno mesto za AI, 5G, deeptech in GovTech pilote - DGE3.2: Nadgradnja OpenLab, Kovačnice in TIP platforme z hackathon, scaleup in deeptech program DGE4: Talenti, mentorstvo in povezovanje izobraževanja z gospodarstvom - DGE4.1: Digitalno opismenjevanje občanov in KReativnica kot mestno digitalno učno-inovacijsko središče - DGE4.2: Platforma digitalne podpore in izobraževanja odraslih ter mentorstvo med šolstvom in gospodarstvom
KPI	KPI 11: Število povezanih podatkovnih virov KPI 12: Število odprtih podatkovnih naborov in dashboardov KPI 13: Delež gospodinjstev, javnih objektov in poslovnih con z dostopom do širokopasovne povezljivosti KPI 14: Število področij pokloprtih z digitalnimi dvojčki KPI 15: Število odločitev, projektov ali analiz, podprtih s podatki/GIS KPI 16: Število IoT podatkovnih tokov v mestni podatkovni platformi KPI 17: Število področij delovanja z IoT podatkovnimi tokovi KPI 18: Delež ključnih javnih lokacij z ustrezno IKT dostopnostjo KPI 19: Število prometno, parkirno ali mobilnostno spremljanih lokacij KPI 19.1: Število digitalnih parkirnih transakcij, rezervacij ali mobilnostnih povezav KPI 19.2: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.3: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.4: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.5: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.6: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.7: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.8: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.9: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.10: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.11: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.12: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.13: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.14: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.15: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.16: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.17: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.18: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.19: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.20: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.21: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.22: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.23: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.24: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.25: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.26: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.27: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.28: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.29: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.30: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.31: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.32: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.33: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.34: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.35: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.36: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.37: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.38: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.39: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.40: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.41: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.42: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.43: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.44: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.45: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.46: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.47: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.48: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.49: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.50: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.51: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.52: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.53: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.54: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.55: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.56: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.57: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.58: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.59: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.60: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.61: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.62: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.63: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.64: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.65: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.66: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.67: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.68: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.69: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.70: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.71: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.72: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.73: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.74: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.75: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.76: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.77: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.78: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.79: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.80: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.81: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.82: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.83: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.84: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.85: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.86: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.87: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.88: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.89: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.90: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.91: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.92: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.93: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.94: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.95: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.96: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.97: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.98: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.99: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov KPI 19.100: Število okoljskih, energetskih, vodnih ali odpadkovnih podatkovnih tokov	KPI 21: Število povezanih storitev v Pametni Kranj KPI 22: Število aktivnih uporabnikov platforme KPI 23: Število aktivnih uporabnikov mestne kartice oziroma digitalne mestne identitete KPI 24: Število naročnikov na digitalna obvestila KPI 25: Število objav kritičnega obvestila KPI 26: Število digitalnih pobud, idej, anket ali glasovanj KPI 27: Število prostovoljskih prijav prek digitalnega sistema KPI 28: Število uporabe digitalnih zdravstvenih, športnih ali aktivnih storitev KPI 29: Število športnih partnerjev, ekip, programov ali povezav KPI 30: Število lokalnih ponudnikov v digitalnem kanalu KPI 31: Število rezervacij, nakupov ali uporabe kartice prek digitalnega kanala	KPI 31: Delež ključnih digitalnih sistemov z izvedenim varnostnim pregledom KPI 32: Čas odprave kritičnih ranljivosti KPI 33: Delež ključnih projektov v enotnem projektnem orodju KPI 34: Povprečna starost ključne IKT opreme KPI 35: Število digitaliziranih internih self-service postopkov KPI 36: Število digitaliziranih prioritarnih notranjih ali upravnih postopkov KPI 37: Povprečni čas obravnave izbranih postopkov KPI 38: Delež relevantnih zaposlenih, ki aktivno uporabljajo interni LLM ali AI asistenta KPI 39: Število potrjenih AI primerov uporabe KPI 40: Število ključnih delovnih mest z usposabljenimi digitalnimi kompetencami KPI 41: Delež novorazpisanih, vključenih v digitalni onboarding	KPI 41: Število objavljenih digitalnih projektov v javnem portfelju KPI 42: Število promocijskih dogodkov, kampanj ali predstavitev KPI 43: Število vključenih podjetij v digitalni ekosistem KPI 44: Število pilotnih projektov z lokalnim gospodarstvom KPI 45: Število tehnoloških pilotov KPI 46: Število vključenih startupov, scaleupov ali deeptech ekip KPI 47: Število udeležencev digitalnega opismenjevanja in izobraževanja KPI 48: Število šolsko-podjetniških, mentorskih ali učnih projektov
Horizontalna povezava 1: Povezanost s Trajnostno urbano strategijo MOK Horizontalna povezava 2: Prispevek digitalne strategije k zelenemu prehodu Horizontalna povezava 3: Upravljanje sprememb pri digitalni preobrazbi MOK				



1 Introduction

The City of Kranj is recognised for its ability to integrate technology, sustainable development, innovation and the needs of its residents. The digital development strategy represents the next phase in the city's development; in recent years, it has evolved from an industrial and regional centre into a recognised example of a medium-sized smart, green and innovative city. Kranj has already confirmed its focus on innovation through national and European accolades, including the Zlati Kamen 2025 award as the most progressive and development-oriented municipality in Slovenia, and is internationally recognised in the field of digitalisation.



Figure 1: A view of old and modern Kranj

The digital strategy builds on past successes, but channels them into a more interconnected, measurable and user-friendly system. Its guiding principle is that digitalisation is not an end in itself, but a tool for better public services, more efficient city management, more inclusive decision-making, greater safety, sustainable mobility, climate neutrality and a better quality of life for residents.

This approach is also confirmed by public opinion: in a recent survey, 79.6% of respondents confirmed that they consider the development of new digital solutions to be important.

Statistics on responses to the question: "How important do you think it is for the City of Kranj to develop digital solutions for residents in the coming years?":

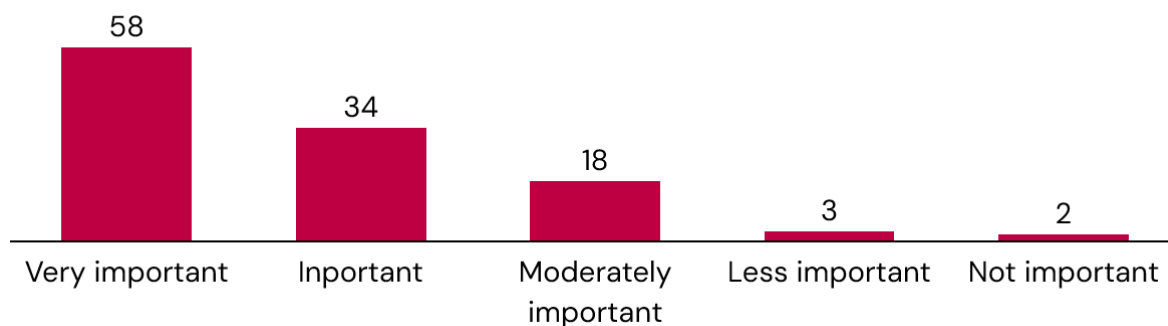


Figure 2 : Responses to the question "How important do you think it is for the City of Kranj to develop digital solutions for citizens in the coming years?" (n=119)

The digital strategy is structured as a well-organised digital transformation portfolio. It is based on a cascade logic, in which the strategic direction is gradually translated into implementation elements:

1. strategic pillars define the main areas of focus,
2. programmes bring together related projects,
3. projects represent the implementation level,
4. whilst KPIs enable the monitoring of outcomes.

This structure facilitates better management, the assignment of responsibilities, the prioritisation of projects and regular monitoring of progress.

The strategy is divided into four key pillars:

1. Digital economy and ecosystem
2. Digital services and society
3. Digital foundations
4. Digital governance and operations

These pillars complement one another. Digital services for citizens, for example, require data infrastructure, security, clear process management and skilled staff; smart mobility requires data, sensors, connected services, communication with users and collaboration with the business sector; whilst the digital economy can only develop if the city functions as an open testing environment with clear rules, data, partnerships and the capacity to deliver.

To implement the digital strategy, we have designed 56 projects and 19 programmes. Each programme brings together several related projects which,



collectively, contribute to the objectives of the digital strategy. This prevents the strategy from becoming an opaque list of initiatives, whilst at the same time enabling clearer accountability and monitoring of outcomes.

The strategy also includes horizontal links that cut across all pillars. Of particular importance are the link to the City of Maribor's Sustainable Urban Strategy, the contribution of digitalisation to the green transition, and change management in the context of digital transformation. These links ensure that the digital strategy is not a separate technological agenda, but rather a supporting framework for the city's broader development goals: climate neutrality, sustainable mobility, high-quality public services, an inclusive society, efficient administration and a competitive local economy.

The Implementation Plan for the MOK Digital Development Strategy is a key annex to this document and sets out its implementation framework.



2 Methodology

The first part of the strategy's preparation was devoted to analysing the current situation and reviewing existing strategies, projects, KPIs, risks and development opportunities. The analysis of the current situation showed that digital aspects are already present in several of MOK's development areas: the smart city, mobility, energy, tourism, social services, security, the environment, the economy and administration. Key development opportunities include better integration of existing digital solutions, optimisation of public services, the use of data for decision-making, the introduction of artificial intelligence solutions, citizen engagement, and support for the green transition and sustainable development.

The preparatory phase also addressed the city's broader development challenges, including cooperation and skills, Kranj's regional role, job and workforce development, the concentration of ICT and technology companies, young people, an ageing population, the transport system, natural resources, climate change, the revitalisation of Old Kranj and financially sustainable management. It is crucial that the digital strategy is not merely a technological document, but a supporting framework for addressing the city's broader development issues – as defined in the TUS+ and other strategic documents.

The review of existing strategic documents covered local, national and European frameworks. At the local level, the most important documents were the MOK Sustainable Urban Strategy 2030+, the Digital Development Strategy for the Smart City and Community of Kranj 2020–2023, the Mission 100 Cities Climate Pact, and transport, tourism, cultural, social, environmental and other sectoral frameworks. At national level, the following strategies were taken into account: Digital Slovenia 2030, digital public services, smart specialisation, research, innovation, industry and artificial intelligence. At the European level, guidelines relating to data, interoperability, artificial intelligence, cyber security, digital identity, open data and the green transition were taken into account.

Another key input into the strategy's development was a review of MOK's existing projects and digital solutions, such as Smart Kranj, Smart Mlaka, CeKr, the UrbanMind data space, the GIS system, KrSkolesom, the road closure portal, speed cameras, traffic data, water and energy consumption monitoring, the Visit Kranj platform, and augmented reality in Kranj. The review showed that the key challenge is not the absence of digital solutions, but rather their further integration,



interoperability, data harmonisation and incorporation into a common long-term digital framework.

The methodology for drawing up the strategy is therefore based on four substantive steps:

1. Analysis of the current situation and challenges
2. Review of strategies, projects and KPIs
3. Formulation of a digital strategy concept
4. Definition of strategic programmes, projects and KPIs

2.1 Analysis of the current situation and challenges

The City of Kranj already has a range of strategic directions, development initiatives, digital solutions and data sources in the field of digitalisation. The analysis of the current situation does not treat digitalisation as a new or separate field, but rather as an extension of existing development guidelines, projects and the municipality's needs. The key aim of the first step was to identify what has already been established, where development gaps exist, and which guidelines need to be integrated into a unified, feasible and measurable digital framework.

2.1.1 Review of existing strategic documents

The existing strategic documents of the City of Kranj cover several areas directly related to digital transformation: the smart city, mobility, energy, tourism, social services, the environment, accessibility, culture and climate neutrality. Relevant MOK strategic documents for the preparation of the MOK Digital Development Strategy 2032:

- Revision of the City of Kranj's Sustainable Urban Strategy 2030+ / TUS+
- Digital Development Strategy for the Smart City and Community of Kranj 2020–2023
- Mission 100 Cities Climate Pact
- Municipal Integrated Transport Strategy
- MOK Tourism Development Strategy 2021–2027
- Strategies for culture, social care, the elderly, accessibility and equality
- MOK Environmental Protection Operational Programme 2024/35/50

Local strategic documents already contain numerous digitally relevant objectives. The new strategy must therefore ensure a common framework for objectives, projects, data and KPIs.



2.1.2 Overview of completed and ongoing projects in the field of digitalisation

Over the past period, MOK has established a relatively broad range of digital solutions that support both the municipality's internal operations and services for citizens, visitors, public services and businesses. The existing solutions provide an important foundation for further development, whilst also highlighting the need for greater integration, interoperability and strategic management. Strategic projects in the field of digitalisation:

- Smart Kranj
- CeKr
- GIS system
- Infrastructure Register
- KrSkolesom
- Road Closures Portal
- Monitoring of car park locations and prices
- Visit Kranj platform
- Augmented reality
- Tracking visitor numbers in the city centre
- Knowledge Action Project
- Smart Mlaka
- Commercial property data register (part of the GIS)

MOK has a large number of individual digital solutions, but the next step in development is to integrate them into a comprehensive digital ecosystem. Of particular importance will be the establishment of a unified data platform or data lake, and an assessment of the transition from the existing local infrastructure to cloud-based or hybrid management of the digital infrastructure.

2.1.3 Overview of the urban environment

Kranj plays an important regional role, has a diverse economic structure and a concentration of businesses and activities that can support the development of digital solutions, innovations and partnerships. The digital strategy must take into account the broader urban and regional context, not just the needs of the municipal administration.



Table 1: Overview of the urban environment

Aspect of the urban environment	Finding	Significance for the digital strategy
Economic structure	Kranj stands out for the number of businesses across various size categories, including micro, small, medium and large enterprises.	The strategy must support both smaller users of digital services and more complex partnerships with larger enterprises.
Sectoral structure	Industry, services, trade, transport, and professional, scientific and technical activities play an important role.	Digital solutions must be applicable to different sectors and levels of digital maturity.
Growing sectors	Among the fastest-growing sectors are construction, professional, scientific and technical activities, as well as education, health and social care.	These sectors can provide an important environment for pilot projects and the development of new services.
The city's development challenges	Key issues include transport, an ageing population, climate change, natural resource management, spatial planning, the regeneration of old Kranj, skills and financial sustainability.	Digitalisation must be focused on specific urban challenges, not merely on technological upgrades.
Innovation potential	The presence of ICT and technology companies, as well as knowledge-based sectors, represents significant development capital.	A structured model of cooperation is needed between the municipality, businesses, public institutions, research organisations and residents.

Key finding: The digital strategy must be linked to the actual needs of the urban environment. Its role is not merely to introduce new technologies, but to support



more effective city management, better decision-making, greater stakeholder engagement and higher-quality services for users.

2.1.4 Review of strategic documents at national, regional and EU level

The MOK's digital strategy must also be aligned with the broader national, regional and European strategic framework. This framework sets out the direction for digital transformation, public services, data, artificial intelligence, cyber security, interoperability and digital inclusion.

Table 2: Overview of strategic documents at national, regional and EU level

Level	Relevant documents
National	• Digital Slovenia 2030 • Digital Slovenia 2030 Action Plan • National Strategic Plan for the Digital Decade • Digital Public Services Strategy 2030 • S5 Smart Specialisation Strategy • Slovenia's Research and Innovation Strategy 2021–2030 • Slovenian Industrial Strategy 2021–2030 • National Programme for Artificial Intelligence
EU	• EU Digital Strategy • European Data Strategy • Digital Europe Programme • European Green Deal • Digital Decade • Data Governance Act • Data Act • AI Act • NIS2 and eIDAS • Open Data Directive • GDPR • European Interoperability Framework
Standards and reference frameworks	ISO 37120, ISO 37130, ISO 37127, European Interoperability Framework

Key finding: The broader strategic framework confirms that data, interoperability, cyber security, digital identity, artificial intelligence, open data and digital public services must be the fundamental building blocks of the MOK's digital strategy.



2.1.5 Review of good practices

A review of other cities' digital strategies shows that successful cities do not treat digitalisation as a separate technological field, but rather as an overarching development framework for mobility, the environment, energy, the economy, public services and governance. The review examined major cities such as Madrid, Helsinki, Leipzig, Dresden, Barcelona, Amsterdam, Copenhagen and Singapore, as well as innovative cities such as Leipzig, Dresden, Nantes, Tallinn, Ghent, Vienna and Bristol.

Major cities: Strong digital infrastructure, data platforms, systems integration, operational efficiency, cyber resilience.

Innovative cities: People-centred approach, quality of life, citizen engagement, open data, pilot schemes, collaboration with the ecosystem.

Transferable guidelines for MOK:

- establish a solid digital foundation: data, infrastructure, security, interoperability
- integrate existing solutions into a unified digital ecosystem
- develop services around user needs, not around individual technologies
- systematically roll out pilot projects, particularly in the fields of artificial intelligence, data and smart management
- strengthen open data, participation and digital trust
- establish a clear model for managing the digital project portfolio.



2.2 Formulating the digital strategy concept: strategic pillars, programmes and projects

The digital strategy concept is structured according to a cascade model:



Figure 3: The cascading concept of the digital strategy

This cascading structure facilitates the transition from strategic directions to a well-organised portfolio of digital development projects. The pillars define the main areas of focus, the programmes bring together related projects, the projects represent the implementation level, and the KPIs enable the monitoring of outcomes.

2.2.1 The four pillars of digital transformation

The digital strategy comprises four fundamental pillars:

Table 3: Pillars of digital transformation

Pillar	Role in the digital strategy
Digital foundations	Includes data infrastructure, digital twins, GIS, IoT, sensor technology, smart urban infrastructure, mobility, the environment and cyber security.
Digital Services and Society	Focused on citizens, service users, participation, health, sport, culture, tourism, the urban experience and digital inclusion.
Digital management and operations	This addresses the internal functioning of the Municipality of Kranj, processes, e-business, project collaboration, AI support for staff, competencies and organisational development.
Digital Economy and Ecosystem	It links digital development with the local economy, innovation, talent, start-ups, scale-ups, the deep tech sector and the advanced technology ecosystem.

These pillars are interconnected and complement one another to form a digital strategy covering all aspects of the MOK's operations.

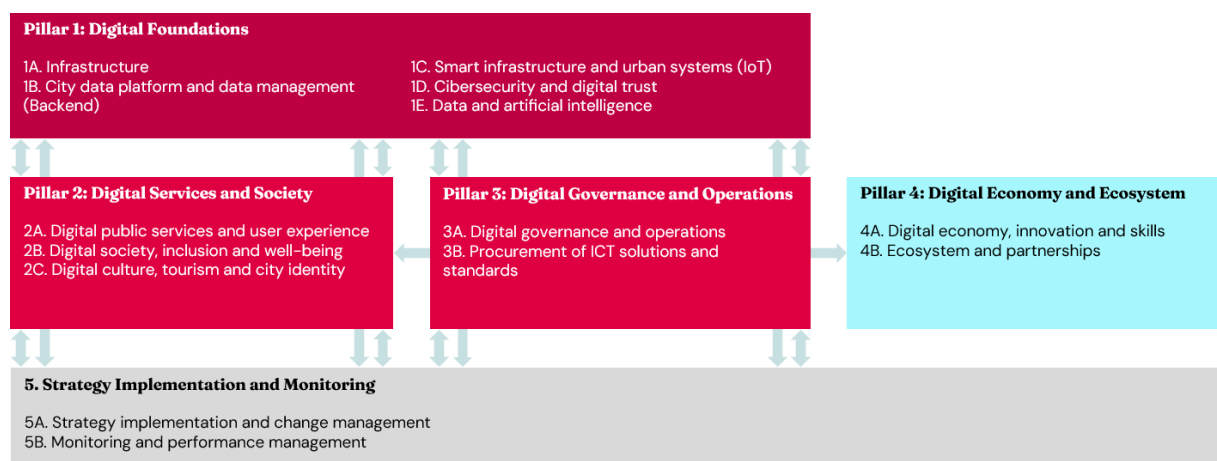


Figure 4: Interconnection between the pillars of digital transformation

2.2.2 Programmes as the core units of the strategy

Programmes are the central units of the digital strategy. Each programme brings together several related projects which, together, contribute to a specific strategic objective. This prevents the strategy from becoming an opaque list of individual initiatives.

The following principles were applied when designing the programmes:

- each programme has a clearly defined scope,
- each project is assigned to a single programme,
- programmes may contribute to more than one pillar,
- related projects are grouped together,
- duplication between projects is minimised,
- programmes enable the definition of ownership and responsibility,
- programmes form the basis for KPIs and monitoring of implementation.

The programme structure enables project initiatives to be managed as a portfolio that can be prioritised, implemented in phases and monitored regularly.

2.2.3 Projects as the implementation level of the strategy

Projects are the implementation level of the digital strategy. Each project is assigned to a single flagship programme, which enables clearer ownership, accountability and progress monitoring.

The following rule applies when assigning projects: **one project – one lead programme.**



This means that a project may have an impact on several pillars, but for management purposes it has only one primary programme. This approach prevents duplication, unclear accountability and fragmented implementation.

Details of the implementation of individual projects are set out in the attached Digital Strategy Action Plan, which describes the timeline, financial and human resources, risks, expected impact and interlinkages between projects.

2.2.4 Performance indicators and progress monitoring

Performance indicators are structured according to a dual cascade – implementation flows from strategic priorities down to the operational projects of the digital strategy. Conversely, the KPIs for individual projects are designed to contribute to the achievement of strategic objectives and KPIs at the strategy level.



Figure 5: The reverse cascade structure of the digital strategy

2.2.5 Digital strategy KPIs

KPIs	Current value 2026	Target value 2029	Target value 2032
City data platform, open data and dashboards			
KPI 1.1: Number of connected data sources	10	25	50
KPI 1.2: Number of open datasets and dashboards	8	35	60
KPI 1.3: Proportion of households, public buildings and business zones with access to broadband connectivity	95.51%	100%	100
Digital twins, GIS and data-driven decision-making			
KPI 1.4: Number of areas covered by digital twins	0	2	4
KPI 1.5: Number of decisions, projects or analyses supported by data/GIS	No data	Rating: Useful in the annual survey	Rating: Very useful in the annual survey



Urban IoT, sensors and smart urban infrastructure			
KPI 1.6: Number of IoT data streams in the city data platform	10	15	20
KPI 1.7: Number of operational areas with IoT data streams	3	6	9
KPI 1.8: Proportion of key public locations with adequate ICT accessibility	70%	80%	90%
Smart mobility, transport and parking			
KPI 1.9: Number of locations monitored for traffic, parking or mobility	10	20	30
KPI 1.10: Number of digital parking transactions, bookings or mobility enquiries	50,000/year	250,000/year	450,000/year
Smart environment, water, energy and waste			
KPI 1.11: Number of environmental, energy, water or waste data streams	2	5	8
KPI 1.12: Reduction in unnecessary collections, interventions or manual checks	0%	15 %	30 %
Smart Kranj – a single digital entry point			
KPI 2.1: Number of connected services in Smart Kranj	8	25	45
KPI 2.2: Number of active platform users	1,800	5,000	10,000
KPI 2.3: Number of active users of the city card or digital city identity	1,900	8,000	12,000
Digital communication, notifications and personalised content			
KPI 2.4: Number of subscribers to digital notifications	3,000	6,000	12,000
KPI 2.5: Time taken to publish a critical notification	120 mins	60 mins	30 mins
Digital participation, local communities and volunteering			
KPI 2.6: Number of digital initiatives, ideas, surveys or polls	25 per year	40 per year	70 per year
KPI 2.7: Number of volunteer registrations via the digital system	0	20 per year	40/year
Digital health, sport and active living			
KPI 2.8: Number of uses of digital health, sport or active lifestyle services	1,000	8,000	15,000
KPI 2.9: Number of sports partners, teams, programmes or connections	10	35	60
Digital tourism, culture, local offerings and city amenities			
KPI 2.10: Number of local providers on the digital channel	20	80	150
KPI 2.11: Number of bookings, purchases or card uses via digital channels	20,000/year	60,000/year	120,000/year
Cyber security, privacy and digital trust			
KPI 3.1: Proportion of key digital systems that have undergone a security audit	No data	20%	30%
KPI 3.2: Time taken to resolve critical vulnerabilities	10 days	5 days	3 days
Digital working environment and project collaboration at MOK			
KPI 3.3: Proportion of key projects in the unified project management tool	0%	20%	40



KPI 3.4: Average age of key ICT equipment	6.51 years	6.2 years	less than 6 years
Optimisation of internal processes and e-business			
KPI 3.5: Number of digitised internal self-service procedures	5	10	20
KPI 3.6: Number of digitised priority internal or administrative procedures	10	40	70
KPI 3.7: Average processing time for selected procedures (procurement, notification, data requests)	No data	-25%	-40%
AI support for staff and internal LLM			
KPI 3.8: Proportion of relevant staff who actively use the internal LLM or AI assistant	15 %	30 %	60
KPI 3.9: Number of approved AI use cases for internal processes	0	10	20
Digital skills, onboarding and organisational development at MOK			
KPI 3.10: Proportion of key roles with defined digital competences	10 %	80%	100
KPI 3.11: Proportion of new recruits participating in digital onboarding	0%	90%	100
Promotion of digital projects, AI and urban opportunities			
KPI 4.1: Number of digital projects published in the public portfolio	0	25	45
KPI 4.2: Number of promotional events, campaigns or presentations	2 per year	8 per year	12 per year
Cooperation between MOK and the local business community			
KPI 4.3: Number of businesses involved in the digital ecosystem	15	60	120
KPI 4.4: Number of pilot projects with the local business community	2	8	15
Start-ups, scale-ups, deep tech and the advanced technology ecosystem			
KPI 4.5: Number of technology pilots	1	8	15
KPI 4.6: Number of participating start-ups, scale-ups or deep-tech teams	10	35	60
Talent, mentoring and linking education with the economy			
KPI 4.7: Number of participants in digital literacy and training programmes	300/year	1,000/year	1,500 per year
KPI 4.8: Number of school-business, mentoring or learning projects	5	20	35

Table 4: KPIs for individual programmes

2.2.6 Vertical programmes and horizontal links

The digital strategy comprises vertical programmes and horizontal links.

Vertical programmes are linked to individual pillars and represent the main thematic areas of the strategy. These include, for example, programmes in the fields of the economy, digital services, data platforms, smart mobility, the smart environment, the digital working environment and the optimisation of internal processes.



Horizontal links cut across all pillars of the strategy and ensure that the digital transformation is aligned with the wider development objectives of the City of Ljubljana.

Table 5: Horizontal links and their role in the strategy

Horizontal link	Role in the strategy
Link to the City of Maribor's Sustainable Urban Strategy	Ensures that the digital strategy is aligned with the city's broader development objectives.
Contribution of the digital strategy to the green transition	Links digitalisation with energy, the environment, mobility, the circular economy and climate neutrality.
Change management in MOK's digital transformation	Ensures that digital solutions are implemented with appropriate communication, training, user involvement and organisational support.

2.3 Strategic programmes, projects and KPIs

The second part of the methodology for developing a digital strategy presents an implementation framework that links programmes, projects and KPIs. This part of the strategy enables the concept of digital transformation to be translated into a measurable and manageable portfolio.

2.3.1 Structure of strategic programmes

Strategic programmes are designed as sets of related projects which, together, contribute to the objectives of a particular pillar. Programmes are broad enough to allow for implementation over several years, whilst at the same time being specific enough to enable the identification of responsible parties, projects, KPIs and priorities.

Programmes in the strategy fulfil several functions:

- they link related projects,
- they reduce duplication,
- enable better portfolio management,
- define responsibility for content,
- enable phased implementation,
- provide a basis for monitoring progress.

2.3.2 Linking projects to KPIs

KPIs are an integral part of the strategy as they enable the monitoring of the effects of digital transformation. The strategy therefore measures not only the



implementation of projects, but also their effects on users, processes, data, the environment, the economy and city management.

The indicators are structured across several levels.

Table 6: Linking KPIs to the digital strategy

KPI level	Purpose
Strategy level	Monitoring the overall progress of MOK's digital transformation
Pillar level	Monitoring impacts across key content areas
Programme level	Monitoring the performance of individual strategic programmes
Project level	Monitoring of implementation, deadlines, results, costs and user impacts

2.3.3 Prioritisation of projects

As the strategy encompasses a large number of project initiatives, a priority assessment mechanism forms part of its structure. This ensures that projects are not ranked solely on the basis of the number of votes or current visibility, but rather on a comprehensive assessment of strategic alignment, business value, impact, urgency, investment, duration, feasibility and technological or data impact.

In addition to the priority assessment, projects are also categorised according to their nature.

Table 7: Classification of digital strategy projects

Project designation	Purpose
MUST-DO	The project is essential due to regulatory requirements, security, business criticality or the dependence of other projects on it.
QUICK WIN	The project involves a low investment, a short time to first value and high feasibility.
STRATEGIC PROJECT	The project has a significant long-term impact, but may be more complex, more expensive or take longer to complete.

Categorising specific projects enables a balanced portfolio that includes urgent projects, quickly implementable improvements and long-term strategic investments.



3 Strategic pillars, programmes and projects

3.1 Interconnections between the pillars, programmes and projects of digital transformation

The digital transformation of the City of Kranj is based on four key pillars:

1. the digital economy and ecosystem,
2. digital services and society,
3. project foundations, and
4. digital governance and operations.

Within these pillars, projects have been identified that bring together related project initiatives into more transparent and feasible clusters. The programmes are designed so that each programme has a clear thematic pillar, although its effects may also be linked to other pillars.

3.1.1 Matrix showing the links between programmes and the pillars of the digital transformation

Table 8: Matrix showing the relationship between programmes and the pillars of the digital strategy

No.	Programme Pillar	Digital economy and ecosystem	Digital Services and Society	Digital Foundations	Digital Management and Operations
1	Promotion of digital projects, AI and urban opportunities				
2	Cooperation between the City of Kranj and the local business community				
3	Start-ups, scale-ups, deep tech and the advanced technology ecosystem				
4	Talent, mentoring and linking education with the business sector				
5	Smart Kranj – a single digital entry point				
6	Digital communication, information and personalised content				
7	Digital participation, local communities and volunteering				
8	Digital health, sport and active living				
9	Digital tourism, culture, local attractions and urban amenities				
10	City data platform, open data and dashboards				
11	Digital twin, GIS and data-driven decision-making				
12	Urban IoT, sensors and smart urban infrastructure				



13	Smart mobility, transport and parking				
14	Smart environment, water, energy and waste				
15	Cyber security, privacy and digital trust				
16	Digital working environment and project collaboration at MOK				
17	Optimisation of internal processes and e-business				
18	AI support for staff and internal LLM				
19	Digital skills, onboarding and organisational development at MOK				

Some programmes are, by their very nature, distinctly horizontal in character. Among these, the city data platform, Smart Kranj, digital trust, smart mobility, the smart environment and AI support for employees stand out in particular, as they link several pillars of digital transformation.

3.1.2 Prioritisation of strategic projects and programmes

To ensure the effective implementation of the MOK's digital strategy, project initiatives must be assessed using a uniform, transparent and repeatable methodology. The purpose of priority assessment is not merely to rank projects by popularity or number of votes, but to make a balanced assessment of their strategic importance, business value, impact on users, feasibility, cost implications and long-term technological impact.

The priority assessment mechanism is used to compare projects within a single programme, across programmes, and when drawing up the implementation plan or timeline for the digital strategy.

Prioritisation criteria

Each project is assessed against eight criteria. The criteria are weighted differently, as they are not all equally important for strategic decision-making.

Table 9: Priority assessment criteria

Criterion	Weight	Rating 1–5	Contribution
Strategic alignment	20 %		
Business value	20%		
Impact on customers, users or processes	15%		
Urgency / risk of non-implementation	10		
Investment	10		
Duration / time to first value	10 %		
Feasibility	10%		



Technological or data impact for the future	5 %		
Total	100 %		/100

Calculation of the overall score

The contribution of each criterion is calculated using the following formula:

$$\text{Contribution} = \text{score} / 5 \times \text{weighting}$$

In the calculation, the weighting is converted into points. For example, a weighting of 20% corresponds to a maximum of 20 points.

Example for an individual criterion:

Table 10: Example of the calculation for an individual score criterion

Criteria	Weight	Score	Calculation	Contribution
Strategic alignment	20 %	4	$4 / 5 \times 20$	16

The overall project score is the sum of all contributions:

$$\text{Overall score} = \text{sum of the scores for all criteria}$$

The highest possible overall score is 100 points.

Interpretation of the score

Table 41: Interpretation of project scores

Final score	Priority	Recommendation
80–100	Very high	Start as soon as possible
65–79	High	Include in the roadmap
50–64	Medium	Further analysis or piloting required
35–49	Low	Defer or merge with another initiative
below 35	Very low	Do not implement in its current form

Consideration of MUST-DO projects

Some projects must not be assessed solely through the standard scoring system.

This applies in particular to projects that are:

- required by regulations,
- safety-critical,
- business-critical,
- necessary for the uninterrupted operation of services,
- a prerequisite for the implementation of other important projects.

Such projects are designated as: **MUST-DO projects**



Must-do projects are treated as a priority separately from the usual portfolio scoring. Nevertheless, they are also assessed using the same methodology, not to decide whether the project should be carried out, but to gain a better understanding of:

- cost,
- complexity,
- implementation risk,
- dependencies,
- resource requirements,
- implementation timeframe.

This ensures that urgent projects are not overlooked, whilst maintaining transparency regarding their impact on the overall digital transformation portfolio.

Application of the mechanism in practice

The priority assessment mechanism is used when drawing up the digital strategy implementation plan. It is recommended that each project be assessed at least once during the portfolio preparation phase, and that the assessment be updated as necessary in the event of significant changes to scope, costs, regulatory requirements, technological conditions or available resources.

The final priority assessment is used to support decision-making, not as an automatic decision. When drawing up the implementation plan, in addition to the assessment, account must also be taken of dependencies between projects, team availability, financial resources, co-funding opportunities and the MOK's strategic directions.

3.1.3 Proposal for the phased implementation of programmes and projects

The implementation plan for the MOK Digital Development Strategy for the period 2026–2032 translates the portfolio of digital projects into a feasible timeline that takes into account priorities, project readiness, key dependencies, management conditions and necessary decisions. The starting point consists of 56 project business cases, grouped into 19 programmes, whereby existing prioritisation, KPIs, project classifications and financial estimates are retained, whilst the implementation plan adds a phased timeline, horizontal management and the logic of implementation waves.



The basic implementation logic is based on three principles:

1. First the foundations, then the services and domain expansion: the data platform, security, connectivity, management and shared digital components are a prerequisite for most of the more complex services
2. projects do not end once they have been set up, but move into operation and continuous improvement until the end of the strategic period
3. The sequencing of projects is based on priority and readiness; therefore, some important projects are carried out later if they depend on public procurement, the data platform, legal assessments or the identification of the owner.

The implementation of the digital strategy is divided into a mobilisation phase and five implementation phases. The mobilisation phase establishes governance and confirms the conditions for implementation; the first implementation phase lays the digital foundations; the second ensures rapid results and mandatory solutions; the third introduces key digital services; the fourth extends digitalisation to the city's functional areas, whilst the fifth is dedicated to innovation, optimisation and advanced data solutions.

Table 12: Implementation waves of the digital strategy

Wave	Timeline	Purpose	What it includes	Key dependencies
Phase 0: Mobilisation and management	Q2–Q4 2026	Establish the programme so that it is ready for the successful delivery of projects.	Establish the PMO, confirm project owners, validate the timeline, activate the horizontal management layer.	No key content-related dependencies.
Phase 1: Foundations	2027	Build the digital backbone on which subsequent projects depend.	Data platform, data catalogue, security foundations, AI and data framework, connectivity, single point of entry for citizens.	Public procurement for the data platform and 5G or connectivity.
Wave 2: Quick wins and mandatory tasks	2026–2027	Deliver visible results and implement mandatory or urgent elements.	In-house LLM, user training and onboarding, dashboards, promotion and	Some projects are based on the AI/data framework and data platform.



			mandatory e-government solutions.	
Wave 3: Key digital services	2027–2028	Introduce day-to-day services for citizens and internal users.	Citizen portal, communication, internal workflows, public procurement, and platforms for permits and procedures.	Dependency on a single point of entry and data; legal/GDPR review for permits and inspection procedures.
Wave 4: Sector-specific roll-out	2028–2030	Extend digitalisation to the city's operational areas.	Mobility, environment, energy, waste, tourism, culture, health, sport, smart urban IoT.	Reliance on data, sensors and public procurement; political commitment is also required for many projects.
Phase 5: Innovation and optimisation	2030–2032	Upgrade, experiment and optimise on a mature digital foundation.	Predictive artificial intelligence, living lab, GovTech ecosystem, advanced mobility pilots, collaboration with the private sector.	A mature data environment and a functioning innovation ecosystem.

3.2 Pillar 1: Digital Foundations

The Digital Foundations pillar provides the technological, data, infrastructure and security foundation for the digital transformation of MOK. Programmes within this pillar enable data integration, smart city development, sensor technology, mobility, environmental monitoring and digital trust.

3.2.1 Analysis of the current situation

MOK's digital foundations comprise:

1. server infrastructure,
2. applications,
3. data sources,
4. IoT resources,
5. a GIS environment,
6. external platforms and
7. emerging data platforms and spaces



MOK currently provides its own server equipment on-site and maintains it itself to support the business processes of the city administration and certain external users. At the same time, a significant proportion of solutions and data are hosted by external service providers, particularly where these do not relate to the city administration's financial or documentary operations, or where the municipality utilises external databases, such as spatial data and public registers.

The digital infrastructure of the Municipality of Kranj currently comprises, in particular:

1. Physical infrastructure
 - a. a data centre on the MOK premises
 - b. colocation in Kovačnica
 - c. system and communications rooms at MOK and in Kovačnica
 - d. network nodes, cabinets, switches and physical access control (7 locations)
2. Hardware
 - a. 4 physical servers
 - b. 50 high-availability virtual servers
 - c. 170 computers, laptops and related user equipment
 - d. 70–80 mobile devices
 - e. 170 IP phones
 - f. larger multifunction devices, printers, scanners (~30)
 - g. CCTV, a time and attendance system and other specialist equipment
3. Networks and connectivity
 - a. segmented WAN/LAN network
 - b. VPN access to the internal network
 - c. more than 100 Wi-Fi hotspots, including at local authority locations
 - d. internal and external fibre-optic connections
 - e. APN connections for specific purpose-built systems, e.g. radars
 - f. telephone services via an external provider
4. Software, applications and databases
 - a. Microsoft environment for users and servers (part of the contract at national level)
 - b. Linux servers for specific purposes (limited scope)
 - c. Financial and accounting software for finance, accounting, travel expenses and some HR functions



- d. Document management system
 - e. Time and attendance system
 - f. GIS environment
 - g. SiVrtci, Impores, procurement via the financial and accounting software, and other business applications
 - h. databases linked to individual applications, e.g. Firebird SQL, Windows SQL and MariaDB
5. security tools and support services
- a. Palo Alto firewall
 - b. Third-party SOC service for cyber and information security
 - c. Sophos antivirus
 - d. backup via iStor
 - e. Archiving is provided as a service
 - f. VPN, network segmentation and access control
6. Integrations
- a. Limited integration between GIS, GovernmentConnect and CADIS,
 - b. GIS integration with other systems, including Smart Kranj,
 - c. Integration of Smart Kranj with IoT, ARSO, traffic and other data,
 - d. SI-CEV for electronic service of documents, secure electronic inboxes and documents,
 - e. Limited integration with eGovernment, e.g. for approvals relating to building permits,
 - f. Limited links between public procurement, contracts, payments and CADIS, some of which are still manual or currently being upgraded.
7. intangible digital assets
- a. licences and subscriptions, e.g. Microsoft, CADIS, GIS, security tools,
 - b. ChatGPT (15) and Copilot (10) licences,
 - c. application configurations
 - d. databases and data models,
 - e. API connections and integrations,
 - f. rights to use external platforms,
 - g. website and CMS,
 - h. back-end solutions for Pametni Kranj, CeKR, UrbanMind and other digital systems
 - i. the website and CMS are hosted and maintained by DSpot



In addition to its internal systems, MOK also utilises several solutions and data sources provided by external contractors, public enterprises and concessionaires. This is particularly important in the areas of spatial data, energy, water, parking, street lighting, fibre optics, transport and smart urban infrastructure.

Key findings regarding the current situation are:

1. MOK has established a basic digital infrastructure that enables the functioning of the municipal administration and key services. ***The ICT infrastructure has been modernised in recent years and is in good condition. The key bottleneck is the lack of human resources for the maintenance and full utilisation of the infrastructure***
2. The infrastructure is hybrid: some solutions are on-premises at MOK, some are in colocation, and some are hosted by external providers or in the cloud
3. Hardware, applications, databases, licences, integrations and external services are not yet managed in a single digital asset register
4. Integrations already exist, but to a limited extent
5. ***Discussions with staff indicate that a revamp would be beneficial, particularly in terms of user experience and internal applications***

An internal inventory of IoT assets shows that MOK, or its wider ecosystem, has a wide variety of data sources. These include fixed-position radars used by the inter-municipal traffic police, environmental sensors for air quality, mobile environmental sensors, AVL systems for tracking vehicle locations, mobility counters in the city centre, sensors for bus boarding and alighting, NFC cards and readers, cyclist counters, safe-distance monitors, parking space availability sensors, electric charging points for cars and buses, smart lighting, and various energy, utility and infrastructure sensors. However, these assets are not managed within a unified architecture, the data models are not standardised, and for some assets, it is unclear who the operator is or who has access to the data.

Table 13: Inventory of IoT assets and applications

Administrator	IoT asset	Application
Mayor	/	/
Deputy Mayor	/	/
City Administration	/	/
Inter-municipal Inspectorate (Joint municipal administration body for the municipalities of Gorenjska)	/	/



Inter-municipal Public Order Service (Joint Municipal Administration Body of the Gorenjska municipalities)	Fixed speed cameras	TRAFFI
Joint Internal Audit Service (Body of the Joint Municipal Administration of the Gorenjska municipalities)	/	/
Joint Spatial Planning Service (Joint Municipal Administration Body of the Gorenjska municipalities)	/	GIS Igea, PISO
Joint Environmental Protection Service (Joint Municipal Administration Body of the Gorenjska municipalities)	Environmental sensors (air) – AlfaProxima operates and owns the platform	GIS Igea, PISO
Smart Community Department (Office for Development and Smart Community)	AVL – automatic vehicle location	RIDANGO/Avera app – third-party provider
	Mobile environmental monitoring sensors	UrbanMind
	Mobility counting in the city centre	UrbanMind
	Bus entry and exit sensors	No information about the operator
	NFC cards and readers – heading to Jantar	Jantar
	/	Smart Kranj
	Cards	CeKR
Green Transition Department (Office for Development and Smart Community)	/	/
Department for the City Council and Local Communities (Mayor's Office)	/	/
Communications and Protocol Department (Mayor's Office)	/	/
Department of Economic Activities (Office for Economic Activities and Transport)	Cyclist counters	No information about the operator
	/	GIS Igea
	Safety distance gauge	MIPA: - visual warning at the location - online application for statistics
	Parking space availability sensor	LF3M – on-site display
	Electric car charging points	VizijeMobilnosti – also offers a platform



	Electric charging points for buses	The provider's solution
Transport Department (Office for Economic Activities and Transport)	/	KrsKolesom
	/	Conforma – parking permits
Office for Social Affairs	/	SiVrtci
Projects Department	/	/
Finance Department (Finance and General Affairs Sector)	/	/
Legal and Human Resources Department (Finance and General Affairs Sector)	/	GIS Igea
General Affairs, Civil Protection and Rescue Department (Finance and General Affairs Sector)	/	/
Joint Procurement and Public Contracts Department (Finance and General Affairs Sector)	/	/
Kranj Institute for Tourism and Culture	/	/
Kranj Sports Institute	/	/
Kranj Fire and Rescue Service	/	/
Joint Municipal Administration of the Gorenjska Municipalities	/	/
Gorenjska Museum	/	/
Kranj nurseries	/	SiVrtci
Pharmacies in the Gorenjska region	/	/
Kranj Municipal Services	No data	GIS Igea
Kranj Music School	/	/
Prešeren Theatre	/	/
Kranj Municipal Library	/	/
Primary Healthcare in Gorenjska	/	/
Kranj Health Centre	/	/
Primary schools	Smart lighting	/
Kranj Adult Education Centre	/	/
kranj.si Archive	/	/
Advisory Council for Local Communities	/	/
Gorenjska Local Energy Agency (LEAG)	No information available	/
Arriva	/	/
Domplan	/	/
Petrol	Energy supply sensors	The municipality has no insight
Petrol	Sensors for public distribution systems	The municipality has no insight
Domplan	Gas consumption	The municipality has no insight
Komunala Kranj	Pressure in various parts of the water supply network	The municipality has no insight



Komunala Kranj	They manage part of the car parks; the municipality manages the other part	The municipality has no oversight
GEN-I	Sensors for harvesting energy from solar panels	The municipality has no insight
Vigred	Public lighting management	The municipality has no insight
Vigred	Network – fibre optics	The municipality has no insight
Elektro Gorenjska	Network – electricity	The municipality has no insight

A study of existing smart city projects and products found that 27 different systems (such as TRAFFI, UrbanMind, RIDANGO/Avera, Jantar, MIPA, LF3M, VizijeMobilnosti, Conforma, KrsKolesom, GIS Igea and PISO) to support the operation of the city administration and public systems, but most of them were poorly interconnected or did not exchange data at all. The solutions have different developers and operators, often external contractors or concessionaires, and the data is hosted on various servers belonging to external service providers.

At the same time, an important new digital foundation is being established: the comprehensive 'Smart Kranj' digital platform, which functions as an open smart management system, based on a virtual ecosystem and a data lake to which various services can be connected.

The key objective is to integrate data from various sources and generate new information for users and decision-makers. In the field of sustainable mobility, the plan is to integrate car parks, bike-sharing and micromobility systems, cycle paths and footpaths, traffic counters, public transport and the CeKR card.

UrbanMind, a data platform for smart and sustainable communities, is also being developed on a digital foundation. The project builds on the experience gained from Smart Mlaka and incorporates environmental monitoring, predictive traffic algorithms, micro-location weather data and the use of sensors on buses, thereby transforming urban transport into a source of environmental and traffic data. This is an important step from individual IoT solutions towards a data infrastructure capable of supporting forecasting, early warning, traffic optimisation and adaptation to climate change.



A key aspect of digitalisation is defining the connection between the data platform, the Smart Kranj platform, the CeKR card (and its back-end) and the UrbanMind data space.

The current state of the digital foundations is therefore hybrid. MOK has its own infrastructure, several external platforms, numerous IoT devices and an emerging platform architecture, but it does not yet have a comprehensive catalogue of data sources, a unified data management model, standardised integrations, clear rules regarding data ownership, or a comprehensive overview of the infrastructure managed by external contractors or concessionaires.

3.2.1.1 Insights from MOK staff

Feedback from staff and associated organisations indicates that the greatest challenge facing the digital foundations is not a lack of individual solutions, but rather their interoperability, management and usability for decision-making. MOK has multiple applications, sensors, data sources and external operators, but users often do not see the full picture, do not know who is responsible for a particular piece of data or system, or do not have access to data that would improve their operational work.

The first common insight is the need for a unified data platform and a catalogue of data sources. Workshop proposals highlighted the accessibility of all data collected by the MOK, interoperability between sources, standardised processing, an inventory of internal data sources, the active use of employee data, and shared dashboards with measurable targets.

The second common insight is the need for real-time mobility and spatial data. Staff highlighted data on car parks, road closures, diversions, traffic flows, public transport, cycling, the condition of public spaces, air quality, noise and exceptional events.

The third common insight is the need for smart infrastructure to be managed as an asset. Smart lighting, car park sensors, environmental sensors, traffic counters, safety distance meters, electric charging points and public transport monitoring systems must be managed as part of a shared asset register. For each asset, the operator, purpose, location, data flow, security requirements, maintenance method and connection to the data platform must be clearly defined.



The fourth common insight is the need for greater transparency regarding sensor technology. Proposals from the workshop highlighted that every sensor should have a QR code containing data and information on the purpose of data collection. Such an approach directly strengthens trust in the smart city, as it explains to citizens what data is being collected, why it is being collected, who manages it and how it contributes to the public good.

The fifth shared insight is the need to link digital infrastructure with the green transition. Staff highlighted the citizen's digital portal, alerts for anomalies, notifications regarding drinking water supply, booking waste collection, e-invoices and environmental data.

The sixth common insight is the need for a clear architecture between Smart Kranj, UrbanMind, CeKR, GIS and back-end systems. Without this demarcation, duplication, technical opacity and scaling issues may arise.

3.2.2 Pillar objectives

Objective 1.1: Establish a common architecture for the Smart Kranj digital platform

The objective is for the digital platform to become the central connecting layer for the city's digital services, data and IoT assets. The platform will function as a smart management system which, via a data lake, connects various services and data sources and generates useful information from them for users and decision-makers.

Objective 1.2: Establish a unified register of digital assets, applications, data sources and data operators

The aim is to record all IoT assets, applications, data streams, contracts, operators, data owners, technical interfaces and the MOK's level of access. This includes assets from the inventory, such as radars, environmental sensors, AVL, mobility sensors, sensors on buses, NFC readers, cycle counters, car park sensors, electric charging points, smart lighting, municipal data and energy data.

Objective 1.3: Standardise data connections and integrations

The aim is to reduce dependence on disjointed solutions and ensure that new systems use standardised interfaces, agreed data models, secure integrations and clear rules for data exchange. This is crucial because there are already many



systems in place in the Municipality of Kranj, but they are poorly interconnected or do not exchange data at all.

Objective 1.4: Enable real-time data for decision-making and user services

The aim is to ensure the collection and use of dynamic data where this improves services and management: car park occupancy, passenger numbers, vehicle locations, the status of mobility assets, traffic flows, environmental data, route accessibility and any alerts. The PIZ places particular emphasis on the importance of reliable, accurate and continuous information for public transport users, as well as more effective management of traffic flows.

Objective 1.5: Establish data foundations for sustainable mobility

The priority objectives include a digitised urban transport system, a comprehensive digitised car park register, the integration of KRskOLESOM, a multimodality module, public transport data, and equipment for monitoring journeys and routes. These objectives are directly defined in the PIZ as project outcomes or physical indicators.

Objective 1.6: Ensure cyber security, personal data protection and system resilience

The digital foundations must incorporate rules on security, access rights, traceability, personal data protection, business continuity, data backup and risk management. This is particularly important for systems involving personal data, payments, mobility data, card data, data from external contractors and critical infrastructure.

Objective 1.7: Gradually develop a smart community data space

The objective is to upgrade traditional platform integration into a data space that enables secure, controlled and standardised data sharing between the municipality, businesses, public institutions, researchers and other towns.

3.2.3 Strategic programmes

Table 14: Strategic programmes of the Digital Foundations pillar

Programme	Project
DF1: City data platform, open data and dashboards	City data platform, open data and transition to data-driven governance



	Catalogue of internal data sources, data management and standardised data processing
	Shared dashboards for strategic objectives, projects, indicators and public city data
DF2: Digital twin, GIS and data-driven decision-making	Kranj's digital twin, digital twins of services and eProstor
	GIS and public maps for mobility, accessibility, footpaths, the cycle network and urban infrastructure
DF3: Urban IoT, sensors and smart urban infrastructure	Smart urban infrastructure: Wi-Fi hotspots, smart benches, smart bus stops/buses and QR code transparency of sensors
	5G and gigabit infrastructure as the foundation for the IoT, pilots and new digital services
	A digital platform for intervention management and sensor technology for natural hazards and public safety
DF4: Smart mobility, transport and parking	Digital vertical of sustainable mobility, or MaaS/multimodal module in Smart Kranj
	Digital transport service for permits, road closures and real-time mobility information
	Smart parking: digital cadastre, SIPARK, sensors, parking reservations and payments
	Digital support for public transport: passenger counting, IT equipment, data-driven adjustment of routes and frequencies
	Traffic flow data, road safety sensors and green wave for ambulances, firefighters and buses
	KRsKOLESOM module, micromobility and digital maps for walking and cycling
	Advanced mobility and safety pilot projects: digitally supported e-vans with digital support, AEDs with drones, autonomous / delivery solutions
DF5: Smart environment, water, energy and waste	Smart waste management: bin sensors, route optimisation, weighing, billing and e-booking of waste collections
	Smart and adaptive public lighting as intelligent urban infrastructure
	Environmental and water sensors: water flow and quality, microplastics, noise, air quality and public spaces
	Digital monitoring of energy and water consumption and anomalies in households and public buildings

3.2.3.1 KPIs for strategic programmes

Table 15: KPIs for strategic programmes under the Digital Foundations pillar

Programme	KPI	Current status (2026)	Target (2029)	status	Target (2032)	status
DF 1	KPI 1.1: Number of linked data sources	10	25		50	



	KPI 1.2: Number of open datasets and dashboards	8	35	60
	KPI 1.3: Proportion of households, public buildings and business zones with access to broadband connectivity	95.51%	100%	100%
DF 2	KPI 1.4: Number of areas supported by digital twins	0	2	4
	KPI 1.5: Number of decisions, projects or analyses supported by data/GIS	No data	Rating: Useful in the annual survey	Rating: Very useful in the annual survey
DF 3	KPI 1.6: Number of IoT data streams in the city data platform	10	15	20
	KPI 1.7: Number of operational areas with IoT data streams	3	6	9
	KPI 1.8: Proportion of key public locations with adequate ICT accessibility	70%	80%	90%
DF 4	KPI 1.9: Number of monitored traffic, parking or mobility locations	10	20	30
	KPI 1.10: Number of digital parking transactions, reservations or mobility enquiries	50,000/year	250,000/year	450,000/year
DF 5	KPI 1.11: Number of environmental, energy, water or waste data streams	2	5	8
	KPI 1.12: Reduction in unnecessary collections, interventions or manual inspections	0 %	15 %	30 %

3.2.4 Details of strategic programmes

The aim of the programme is to establish a common data backbone for the city. This must enable the collection, integration, processing and use of data from various sources: municipal applications, GIS systems, IoT sensors, transport



systems, environmental measurements, energy and utility data, city cards, public institutions, concessionaires and external providers.

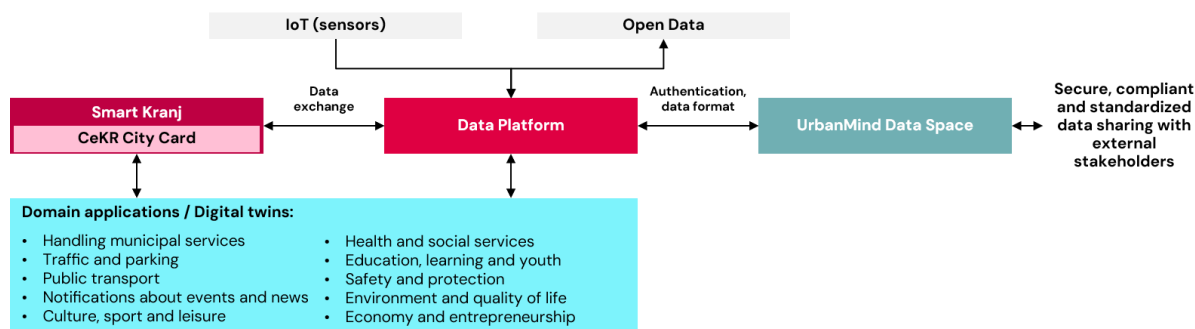


Figure 6: The concept of data solutions and their integration

DT1: City data platform, open data and dashboards

MOK has already begun setting up a data platform in recent months and also manages an open data portal. A section of the data platform that will be accessible externally is also under development. Data from the data platform is used in the 'Pametni Kranj' app, but access to it is difficult for municipal users, and app development is dependent on an external provider, which hinders rapid data-driven management.

In the short term, the proposal is to establish data management through:

1. a comprehensive inventory of MOK's internal and external data sources
2. the preparation of a catalogue of data sources, applications, IoT assets, integrations and data agreements
3. defining the relationship between the data platform, Smart Kranj, UrbanMind, CeKR, GIS and other back-end systems with a view to unification
4. identifying priority additional data flows that should be integrated into the data platform first
5. preparation of basic rules for data quality, access, sharing, archiving and the publication of open data
6. establishing shared dashboards for management, strategic objectives, projects and public indicators.

In the long term, it makes sense to develop the data platform as the central layer for data-driven city management. This means that data is not used merely for reporting, but also for decision-making, forecasting, service optimisation and the development of new digital solutions. It is particularly important that the platform



also provides open data to businesses, researchers, public institutions and citizens, where this is safe, lawful and appropriate.

DT2: Digital twins, GIS and data-driven decision-making

MOK already uses the Igea GIS, PISO and other spatial data sources, whilst more advanced concepts such as UrbanMind and digital twins of services are also being developed. The challenge is to ensure that GIS and digital twins are not viewed merely as maps, but as analytical and decision-making tools.

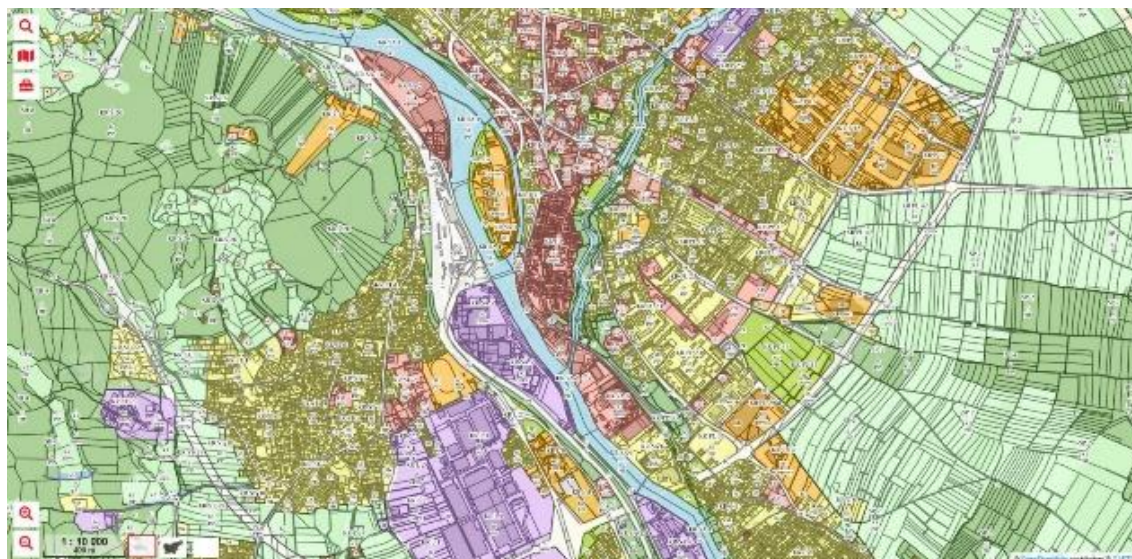


Figure 7: GIS map

In the short term, the proposal is to develop this area by:

1. identifying priority public maps for citizens, businesses and the administration
2. linking GIS data to the data platform and key dashboards
3. preparing digital maps for mobility, parking, accessibility, footpaths, the cycle network and urban infrastructure
4. identifying use cases for the digital twin, for example for transport, parking, the historic city centre, street lighting, environmental data or spatial planning
5. linking the digital twin to existing projects, such as UrbanMind and Smart Kranj
6. drawing up guidelines for the use of spatial data in investment, transport, environmental and development decisions.



In the long term, it makes sense to develop several digital twins across different sectors, e.g. mobility, lighting, water, energy and utility infrastructure, the environment (e.g. heat islands, flood risk, air quality and noise), the city centre and/or key development or pilot areas, and services.

Another long-term objective is the transition to higher levels of autonomy for digital twins. Current status of digital twins by sector:

Table 16: Current status of digital twins by sector

Area Digital twin development stage	NO	ODT	PDT1	PDT2	PDT3	DDT
Dealing with the local council						
Traffic and parking						
Public transport						
Event and news updates	N/A					
Culture, sport and leisure						
Health and social services						
Education, training and youth						
Safety and security						
Environment and quality of life						
Economy and enterprise	N/A					

NO: Not available, ODT: Descriptive digital twin, PDT1: Predictive digital twin, PDT2: Prospective digital twin, PDT3: Prescriptive digital twin, DDT: Diagnostic digital twin

In the planning, construction, renovation and management of public infrastructure, MOK promotes the use of BIM methodology as a key component of the digitalisation of investment processes and the management of public assets. BIM models, technical documentation, project data, bills of quantities, records and other data sources generated within the framework of investments or projects financed wholly or partly by public funds represent a significant digital asset of the municipality.

The Municipality of Kranj (MOK) will therefore require, for relevant projects and contracts, that BIM models and associated data be delivered in open, standardised and interoperable formats that enable long-term use, integration with GIS, incorporation into a digital twin, support for facility management, and further use without dependence on any particular software provider. Industry



Foundation Classes (IFC) can be used as an example of an open and internationally recognised standard for the exchange of BIM data. IFC is an open, global, vendor-neutral standard, published as ISO 16739.

DT3: Urban IoT, sensor technology and smart urban infrastructure

The City of Ljubljana (MOK) and its wider ecosystem already manage a wide variety of IoT and data resources: fixed radars, environmental sensors, mobile sensors, AVL systems for vehicle tracking, mobility counters in the city centre, sensors for bus boarding and alighting, NFC cards and readers, cycle counters, safe-distance monitors, parking space availability sensors, electric vehicle charging points, smart lighting, and various energy, utility and infrastructure sensors.

We would particularly like to highlight the following projects:

1. Smart urban infrastructure: Wi-Fi hotspots, smart benches, smart bus stops and buses, and QR code-based sensor transparency
2. 5G and gigabit infrastructure as the foundation for IoT, pilot schemes and new digital services
3. A digital platform for managing interventions and sensor technology for natural hazards and public safety

We highlight the transparency of sensor technology as a particularly important element of the programme. The aim of the project is for each new sensor or relevant smart device to have its data collection purpose clearly stated. The proposal is to introduce a QR code through which citizens can see:

1. what the device is measuring
2. why the data is being collected
3. who the data controller is
4. whether the data is personal or non-personal
5. how the data is used
6. how the device contributes to the public good
7. where users can go with any questions.

The digital transformation of MOK is based on the principle that data generated in the performance of public tasks, projects, procurement and contracts, financed wholly or partly by public funds, constitutes a strategic digital asset of the municipality. MOK must be guaranteed access to data, records, databases, digital



models, geoinformation data, technical documentation and other data sources that are generated or maintained as part of such activities.

When preparing public procurement contracts, agreements and project briefs, it is therefore ensured that data is provided to the municipality in open, standardised and machine-readable formats, together with the relevant metadata, rights of use, reuse, linking and integration into municipal digital platforms, data warehouses, data libraries, GIS, digital twins and other information systems.

The aim of this policy is to prevent dependence on individual providers, strengthen digital sovereignty, facilitate the integration of solutions and enhance the long-term usability of data.

This approach is consistent with the principles of open data, the re-use of public sector information, data governance, interoperability and equitable access to data, as set out in European and national frameworks. It also takes into account requirements regarding the protection of personal data, information security, documentation and the contractual regulation of data usage rights.

DT4: Smart mobility, transport and parking

The programme was initiated by both citizens and relevant municipal bodies, and the programme's projects and objectives were prominently highlighted during the data collection phase as part of the preparation of the digital strategy. Priority areas include:

1. the establishment of a digital car park register, including location, capacity, price, operating arrangements, operator and occupancy data
2. the integration of existing systems for road closures, permits, parking and traffic information
3. the introduction of a basic digital transport service for residents and visitors
4. the integration of data on KRskOLESOM, cycle routes, footpaths and micromobility
5. the development of a dashboard for traffic, parking, road closures, diversions and the use of mobility services
6. the start of systematic data collection on public passenger transport, including passenger counts, vehicle locations, frequencies and occupancy rates



7. identifying priority junctions, road sections and emergency routes for monitoring traffic flows and safety

In the area of safety, it also makes sense to develop traffic sensors for black spots, speed measurement, safe following distances, school routes and emergency routes. The plan also includes a green wave for emergency services, fire engines and buses, where data from the traffic system enables faster and safer passage through the city.

DT5: Smart environment, water, energy and waste

In the area of the smart environment, water, energy and waste, we emphasise above all the need for better integration of environmental, municipal and energy data. MOK has solutions such as an environmental atlas, monitoring of water and energy supply parameters, reviews of energy and water consumption, and alerts. At the same time, a significant portion of the data is held by public utilities, concessionaires and external providers, where MOK does not always have direct access to the data or technical interfaces.



Figure 8: Data-driven solutions for Kranj

We would like to highlight two key objectives of the programme in particular:

1. Environmental and water monitoring: monitoring water flow and purity, and microplastics, where we aim to equip both municipal infrastructure and rivers and other water sources with sensors to monitor their quality and enable informed decision-making on measures in this area
2. Improving cooperation with external contractors – including through the procurement process. The aim is for the municipality to gain better insight into information on key elements of public services (energy, utilities, the environment, etc.). At present, much of this data is held by external contractors, whilst the Municipality of Kranj has very limited access to it. Public procurement is an effective mechanism for ensuring access.



3.3 Pillar 2: Digital Services and Society

The 'Digital Services and Society' pillar brings together programmes that directly improve the user experience for citizens, visitors, businesses and communities. The aim of this pillar is to make digital services more interconnected, accessible, personalised and user-friendly.

3.3.1 Analysis of the current situation

In the field of digital services, the City of Kranj (MOK) has already established a wide range of solutions for citizens, visitors, the municipal administration and individual public services. Among the more significant services are:

1. Smart Kranj,
2. CeKR,
3. KRskOLESOM,
4. SiVrtci,
5. Conforma for parking permits,
6. GIS Igea,
7. PISO,
8. parking payment systems (external management),
9. mobility monitoring applications, and
10. various solutions for information provision and spatial support.

MOK manages a participatory budget, which enables citizens to have a direct say in how municipal funds are spent.

The CeKR city card holds a special place, combining payment, identification and service functionality. CeKR is designed as a smart city card with open- payment functionality, access to public services and the potential to promote sustainable habits.

Through the CeKR project, MOK is already laying the foundations for a more unified user experience, but the service has not yet been fully integrated with all relevant areas, such as mobility, parking, public transport, city amenities, public institutions and digital payments.

In the field of mobility, KRskOLESOM is the largest electrified bike-sharing scheme in Slovenia; it is operated by an external provider, whilst the municipality owns the scheme and funds its operation.



The transport system and travel habits of Kranj's residents remain traditional; the level of motorisation is high; urban passenger transport is underutilised; and transport subsystems are not sufficiently interconnected via a modern transport hub.

Significant gaps are evident in real-time data and the user experience. The City of Kranj does not yet have the technology to count passengers on city buses; it lacks a comprehensive digitalised register of car parks; and the accessibility map for people with mobility impairments is static, does not contain dynamic data and does not include comprehensive support for blind and partially sighted people. Similarly, in the area of parking, there are individual solutions, such as directional signs and the partial fitting of car parks with induction loops; however, there is not yet a comprehensive app that would guide drivers to the nearest available parking space or display parking regulations for individual car parks.

The current state of digital services and society can therefore be summarised as a transition from disconnected digital services to a more unified, user-centred urban experience. Kranj already has significant services and tools for its citizens, but the key challenge lies in integrating these services, increasing their uptake, ensuring accessibility for different user groups, and providing real-time data.

3.3.1.1 Insights from MOK staff

Feedback from the questionnaires shows that employees and associated organisations view digital services primarily as a tool for a better user experience, less administration, faster responses and greater transparency. Most suggestions do not relate to entirely new services, but rather to integrating existing services into a single, comprehensible and user-friendly digital channel.

The first common insight is the need for a unified municipal digital platform. Respondents to the questionnaire propose the same principle in various forms: ***users should be able to view services, information, applications, statuses, notifications, bookings, payments and real-time data all in one place. This is directly supported by the Smart Kranj programme as a single digital entry point. The challenge lies in integrating TXT transactions, as these require a PCI environment for security reasons.***

Another common theme is the need for status tracking of matters. For municipal requests, traffic warden reports, permits, offences, sports registrations, cultural event tickets and other services, there is a recurring expectation that users should



be able to submit a request digitally, attach supporting documents or photographs, receive a notification, track the status and receive a response without having to provide the same information repeatedly.

The third common insight is the need for real-time data. Employees and organisations highlight car parks, road closures, diversions, bus arrivals, bike availability, the condition of public spaces, air quality, noise, municipal disruptions, events and emergencies. This data is important for both citizens and operational services, as it enables better decision-making, reduces unnecessary calls and improves coordination between services.

The fourth common insight is the need for digital support for vulnerable and less digitally literate users. Staff point out that digital services do not, in themselves, improve the user experience if users lack the knowledge or support to use them. Therefore, the digital services pillar must also include assistance with using e-services, zVEM, e-Government, digital certificates, the city platform and other digital channels.

The fifth shared insight is the need for a more integrated range of city services. Culture, tourism, sport, the library, public institutions and local providers need shared digital channels for promotion, bookings, tickets, benefits, events, calendars and content. This confirms the importance of programmes for digital tourism, culture, sport, local offerings and city benefits.

3.3.2 Objectives of the pillar

Objective 2.1: Connect key city services into a more unified user experience

The objective is for users to access information and services via interconnected channels, primarily through the Smart Kranj platform, the CeKR city card and related apps. PIZ emphasises that the purpose of the digital platform is to improve the user experience by integrating data from car parks, bicycles, micromobility, footpaths, public transport and the CeKR card.

Objective 2.2: Promote sustainable mobility through digital services

Digital services must make it easier for residents and visitors to choose walking, cycling, public transport, shared mobility solutions and multimodal journeys. The PIZ states that sustainable urban mobility measures, integrated into a digital platform, will contribute to increased use of public transport and cycling, a



reduction in traffic in the city centre, a reduction in CO₂ emissions, improved air quality and reduced noise levels.

Objective 2.3: Upgrade services for public transport and multimodality

The aim is to provide users with information on arrivals, departures, vehicle locations, stops, waiting times, payment options and the combination of different modes of transport. The PIZ specifically sets out as objectives the promotion of public transport use, seamless transitions between different modes of transport, the implementation of sustainable parking policy measures, and the restriction of motorised traffic in city centres or zero-emission zones.

Objective 2.4: Expand the use of CeKR as a city identification, payment and service point

The aim is for CeKR to become a key connecting element for city services, including mobility, payments, benefits, public institutions, tourism, events and other services. PIZ envisages the integration of the CeKR prepaid card into the 'Smart Kranj' data platform and app, as well as the development of an online payment and e-commerce system within the CeKR city card system. The challenge lies in linking the transactional and PIC environments, with the PIC environment being complex to maintain and incurring high costs. A feasibility analysis is one of the key activities in achieving this objective.

Objective 2.5: Ensure digital accessibility for different user groups

Digital services must be usable by older people, children and young people, people with mobility impairments, blind and visually impaired people, people with varying levels of digital literacy, and users who do not use digital channels regularly. The PIZ envisages upgrading the Kranj accessibility map for people with mobility and sensory impairments and establishing a digital walkability map.

Objective 2.6: Strengthen citizen participation, communication and digital inclusion

The aim is to use digital services to involve citizens in decision-making, monitoring initiatives, providing information, raising awareness and co-creating solutions. The PIZ provides for information and communication activities, whilst an important module of the Smart Kranj platform is the KrPovej module, through which citizens submit initiatives and monitor their resolution.



3.3.3 Strategic programmes

Table 17: Strategic programmes of the Digital Services and Society pillar

Programme	Project
DSS 1: Smart Kranj – Unified digital access point	Unified Smart Kranj access point: services, e-documents, reservations, payments, QR codes and DigiVEM
	Digital portal for citizens providing real-time access to municipal and local services, applications, e-invoices and notifications
	CeKR as a payment and loyalty ecosystem
DSS 2: Digital communication, notifications and personalised content	Unified segmented notifications, alerts and crisis communication
	Personalised content and communication for the use of digital municipal services
DSS 3: Digital participation, local communities and volunteering	A digital platform for participation, ideas, surveys, youth and citizen co-creation
	Digital support for local communities, volunteering and urban challenges
DSS 4: Digital health, sport and active living	Local support for the use of digital health services and integration with zVEM
	Digital portal and management of sports facilities, programmes, applications, reservations, payments and data
	App for active living, incentives, sports partners and data on healthy eating in public institutions
DSS 5: Digital tourism, culture, local offerings and city benefits	Digital cultural and tourism platform: events, tickets, QR points, audio/VR guided tours and digital museum
	Local marketplace or e-marketplace for providers, service providers and local offerings
	Digital system for city benefits, tourist card and benefits for sport, culture and the library

3.3.3.1 KPIs for strategic programmes

Table 18: KPIs for strategic programmes under the Digital Services and Society pillar

Programme	KPI	Current status (2026)	Target (2029)	status	Target (2032)	status
DSS 1	KPI 2.1: Number of connected services in Smart Kranj	8	25		45	
	KPI 2.2: Number of active platform users	1,800	5,000		10,000	
	KPI 2.3: Number of active users of the	1,900	8,000		12,000	



	city card or digital city identity			
DSS 2	KPI 2.4: Number of subscribers to digital notifications	n/a	at least 30% more than the baseline measurement	at least 60% more than the baseline measurement
	KPI 2.5: Time required to publish a critical notification	n/a	at least 30% shorter than in 2026	at least 50% shorter than in 2026
DSS 3	KPI 2.6: Number of digital initiatives, ideas, surveys or votes	25 per year	40 per year	70 per year
	KPI 2.7: Number of volunteer applications via the digital system	0	20 per year	40/year
DSS 4	KPI 2.8: Number of uses of digital health, sports or active living services	1,000	8,000	15,000
	KPI 2.9: Number of sports partners, teams, programmes or connections	10	35	60
DSS 5	KPI 2.10: Number of local providers on the digital channel	20	80	150
	KPI 2.11: Number of bookings, purchases or card uses via the digital channel	20,000/year	60,000/year	120,000/year

3.3.4 Details of strategic programmes

DSD1: Smart Kranj – a single digital entry point

In the area of a single digital entry point, we emphasise above all the need to integrate MOK's existing digital solutions into a simpler, more transparent and user-friendly environment. MOK already has several important solutions at its disposal, such as CeKR, Smart Kranj, iKranj, Občinsko oko, Visit Kranj, AR Kranj, spatial data, parking systems and other digital services; however, for users, these are often scattered across various channels.



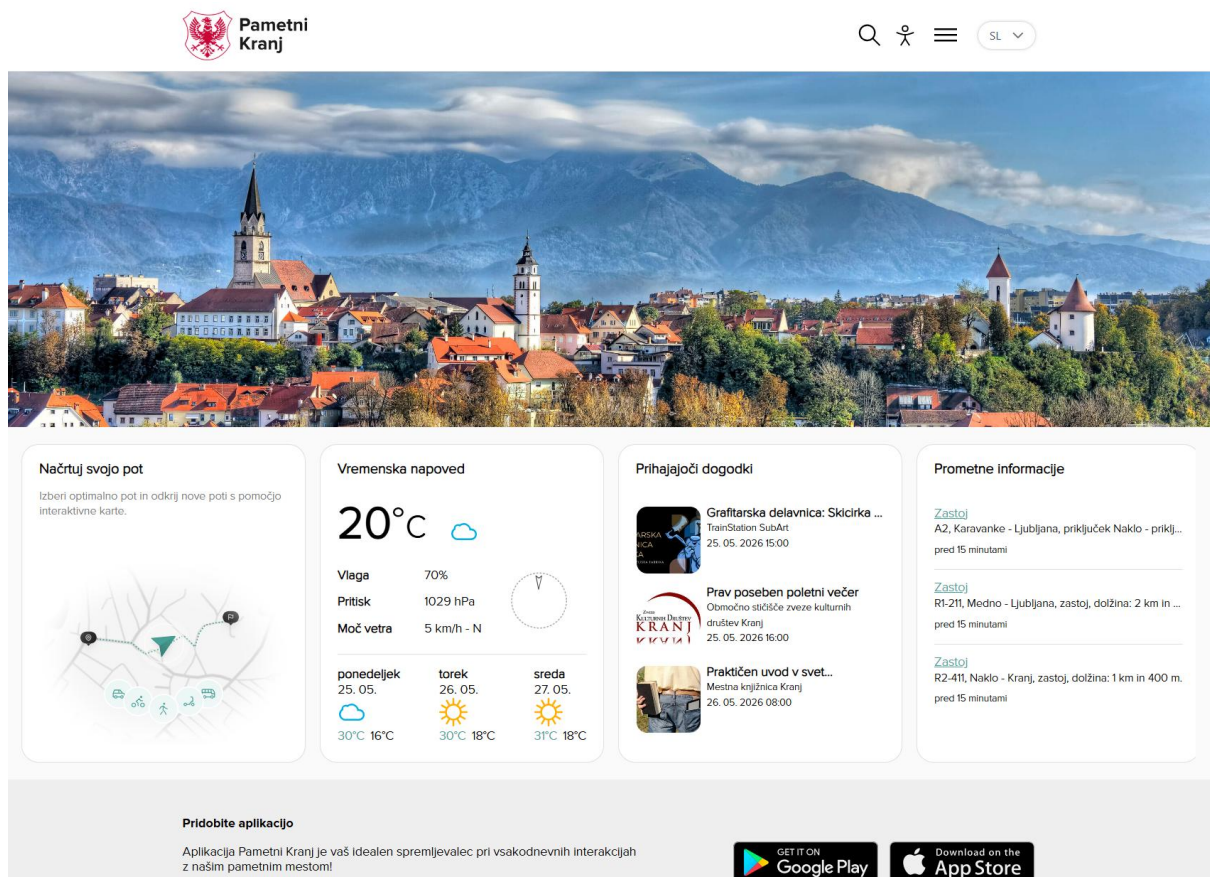


Figure 9: Smart Kranj app

The CeKR city card is an important part of the Smart Kranj platform, as it enables activities requiring authentication, such as the use of public services, payments, loyalty schemes, participation in events, and identification (QR code and personal ID). This architecture enables access to non-critical services requiring a low level of authentication and to services requiring a higher level of authentication.



Smart Kranj	
• Smart Kranj digital platform • Digital vertical for sustainable mobility • MaaS / Multimodal module • Digitalised urban transport system • Digitalised parking cadastre • MOKSIPARK integration • Smart parking • KRskOLESOM Bicycle rental module • Micromobility module • Public passenger transport	• Passenger counting in public transport • Road closure portal • Cycling routes • Walking routes • Digital walkability map • Kranj Accessibility map • Traffic counters • Mobility counters in the city centre • Weather data • Event data
CeKR City Card	
• CeKR payment functionality • User identification • User QR code • Unique user ID • Payment at closed car parks of the MOK • Payment at open car parks of the MOK • Benefits / Loyalty system	• Use of the KRskOLESOM system • Tourist attractions of Kranj • Cultural events • E-ticketing and E-marketplace • Online payments • Payment and loyalty system for mobility

Figure 10: The concept of the CeKR city card and integration with Smart Kranj

The aim of the programme is to enable citizens, businesses, visitors or other organisations to access most city services via a single entry point. This must enable users to view services, submit applications and requests, track the status of procedures, make bookings, make payments, access e-invoices, receive notifications and make use of city benefits. The programme must build on existing solutions, rather than creating yet another application that would increase fragmentation.

There is also an opportunity to integrate the CeKR as a citizen's personal card for all municipal and related services. The CeKR enables loyalty and synergy programmes, segmentation, payments and the use of public services.



Figure 11: Collaboration with the business sector on the development of the CeKR city card



It is crucial that the CeKR functions flawlessly from a technological standpoint and supports public services within the city.

In the short term, the proposal is to improve the consistent user experience through:

1. an inventory of all existing digital services, forms, portals, applications and MOK contact points
2. identifying the services that should be prioritised for inclusion in Smart Kranj
3. integration with existing systems such as CeKR, iKranj, Občinsko oko, Visit Kranj and municipal services
4. the introduction of a unified catalogue of services for residents, businesses and visitors
5. standardising the user experience for applications, requests, bookings, payments and notifications
6. the development of guidelines for the use of QR codes to access services, locations, benefits and information.

In the longer term, it makes sense to develop 'Smart Kranj' as the central digital profile for citizens or users of municipal services. This includes a personalised overview of services, statuses, payments, benefits and notifications; at the same time, the system must be based on clear rules for the protection of personal data, user consent and interoperability with national digital services, where appropriate.

DSD2: Digital communication, information and personalised content

In the field of digital communication, we emphasise above all the need to move away from general notifications towards more targeted, segmented and timely communication. The City of Kranj already uses digital channels for communication, with 'Smart Kranj' being a key example of a tool for real-time information on municipal services and push notifications, including alerts in the event of weather, traffic or other conditions.

We would particularly like to highlight the following projects:

1. Unified, segmented information, alerting and crisis communication
2. Personalised content and communication for the use of digital city services

In the short term, the proposal is to improve digital communication through:



1. a review of all existing communication channels of the Municipality of Kranj and related public services, as well as methods of publishing communications (bottlenecks in publishing, the owner of the publishing process)
2. identifying key user segments, such as residents, businesses, visitors, young people, older people, local communities, car park users, and users of sports and cultural facilities
3. introducing a standardised editorial calendar for digital announcements
4. linking announcements to a location, local community or selected area of interest
5. establishing rules for crisis communication and alerting
6. setting up user preferences for notifications, including consents and channel selection.

We would also like to highlight the desire to conduct surveys and questionnaires via the Pametni Kranj platform, which is currently under development.

DSD3: Digital participation, local communities and volunteering

In the area of participation, we particularly highlight the enhancement of MOK's existing good practices. Kranj has a solid foundation in this area with the KrPovej project, which enabled citizens to submit initiatives and track their resolution. Although more than 2,000 citizens' initiatives were resolved via the portal, participation levels proved to be low and the solution was adapted – this led, amongst other things, to the creation of a participatory budget, under which €1.248 million was allocated to projects across local communities, with more than 50 projects receiving support.

For the programme's further development, we propose the following short-term steps:

1. linking the participatory budget with digital submission, verification, voting and monitoring of project implementation
2. the creation of digital profiles for local communities featuring announcements, projects, events and local initiatives
3. introducing digital surveys and short consultations on key municipal issues – including the technical aspects
4. a dedicated channel for young people, schools and youth organisations – or at least an assessment of its feasibility and necessity



5. a basic digital register of voluntary initiatives, applications and requests for assistance.

In the longer term, it makes sense to develop a comprehensive participatory ecosystem in which citizens do not merely participate when decisions are being made on individual projects, but can regularly monitor what is happening with their proposals. It is also important to involve local communities, as they are closest to citizens' day-to-day needs.

DSD4: Digital health, sport and active living

Kranj is uniquely positioned in the field of health, sport and active living thanks to its proximity to the mountains, outstanding sporting achievements and the high level of physical activity among its citizens. The programme aims to support these activities and provide a better user experience for citizens.

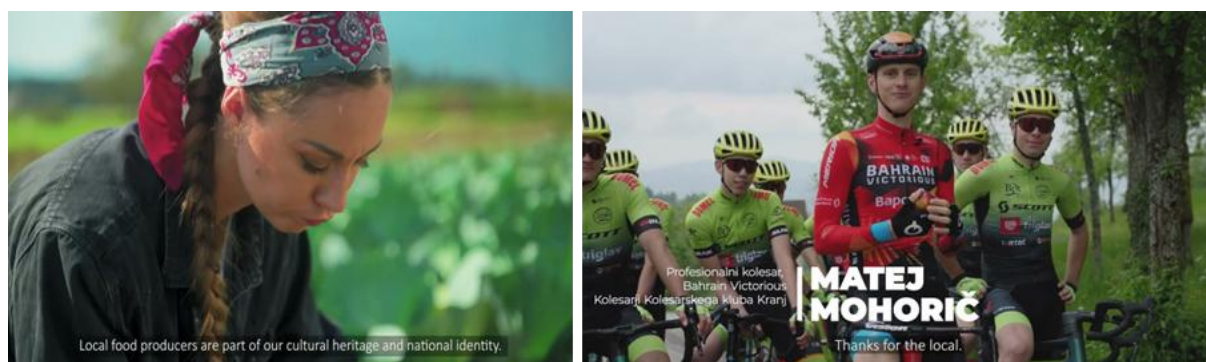


Figure 12: Promotion of a healthy and active lifestyle

We would particularly like to highlight the following projects:

1. Local support for the use of digital health services and integration with zVEM – primarily of an informative/supportive nature
2. A digital portal and the management of sports facilities, programmes, registrations, bookings, payments and data
3. An app for an active lifestyle, incentives, sports partners and information on healthy eating in public institutions

In the area of healthcare, it is important to bear in mind that the MOK can proactively assist citizens in using national services such as zVEM, particularly older people and those with limited digital skills. In the area of sport, the aim is to establish a unified overview of facilities, programmes, schedules, bookings, registrations, payments and the use of infrastructure.

In the short term, the proposal is to improve this area by:



1. drawing up simple guidelines for citizens on how to use digital health services (zVEM)
2. an inventory of sports facilities, programmes, timetables, operators and current booking procedures
3. introducing a basic digital calendar of sports facilities and programmes
4. a pilot scheme for digital registration and booking for selected sports facilities or programmes
5. developing a concept for an active lifestyle app featuring challenges, incentives, partners and a link to CeKR. As the city's loyalty platform, CeKR is a key connecting element of the ecosystem
6. the publication of data on healthy eating in public institutions, where the data is already organised and suitable for public release.

In the longer term, it makes sense to develop an integrated 'active city' system where citizens can, via a single platform, find sports programmes, book slots, register for events, track their activities, access benefits and take part in local challenges. The programme can be linked to schools, sports clubs, healthcare institutions, public institutions, healthy food providers and local partners.

DSD5: Digital tourism, culture, local offerings and city benefits

MOK already has solutions and content such as Visit Kranj, accommodation and bookings, AR Kranj, visitor tracking in the city centre, CeKR, and information on local offerings and events. An existing review of digital solutions shows that one of the key tasks of the new strategy is to link these solutions within a more integrated framework.

We would particularly emphasise three key areas within the programme:

1. A one-off culture voucher via the CeKR card (the interest of councillors and the relevant departments needs to be gauged)
2. Establishment of a calendar of events, performances, exhibitions, concerts, sporting events and tourist attractions
3. Development of a model of city benefits for residents, tourists, families, young people, the elderly and users of sports, cultural and library services

In the longer term, we also aim to develop a local marketplace where local products, services, experiences, culture, tourism, cuisine and events can be brought together. This system must be closely linked to the CeKR city card or the



user's digital identity, as this will enable it to support payments, benefits, loyalty schemes, tourist cards and the promotion of local offerings.

3.4 Pillar 3: Digital Governance and Operations

The Digital Management and Operations pillar focuses on the internal functioning of the Municipality of Kranj. The aim of this pillar is to increase efficiency, reduce administrative burdens, improve project collaboration, organise the digital working environment, develop staff competencies and enable the responsible use of AI.

3.4.1 Analysis of the current situation

Digital management at MOK takes place within a complex organisational environment. The key stakeholders at MOK are the Mayor's Office, the Office for Social Affairs, the Office for Economic Affairs and Transport, the Office for Development and Smart Community, the Office for Projects, the Finance and General Affairs Sector, and the Joint Municipal Administration Body of the Gorenjska municipalities with its units, such as the inter-municipal inspection service, the inter-municipal public order service, the joint internal audit service, the joint spatial planning service and the joint environmental protection service. This organisational structure enables specialised handling of individual areas, whilst at the same time requiring strong horizontal coordination, as digital services, data and IoT resources often extend beyond the remit of any single department.

Currently, management is divided among several bodies: the Inter-municipal Traffic Police operates fixed speed cameras and uses TRAFFI; the Joint Spatial Planning Service uses the Igea GIS and PISO; the Joint Environmental Protection Service is linked to environmental sensors and spatial systems; the Smart Community Department is linked to AVL, UrbanMind, mobility counting, Jantar, Smart Kranj and CeKR, whilst the Office for Economic Activities and Transport is responsible for solutions relating to cyclists, parking, safe following distances and electric charging points. In addition, public institutions and external operators play an important operational role, for example Komunala Kranj, Vigred, Domplan, Petrol, GEN-I, Elektro Gorenjska, Arriva and others. In several entries, the notes state 'to be verified', 'no information on the operator' or 'the municipality has no insight', which highlights the need for a clearer delineation of responsibilities and the introduction of a unified register of digital assets.



Certain applications, such as CADIS, Government Connect, Jantar and the Data Platform, are used in virtually all units.

Another finding of operational significance is that some solutions were not used or were even discontinued because there was insufficient information about them, because there was a lack of knowledge on how to use them, or because staff were overburdened with additional tasks. This shows that digital management is not merely a technological issue, but also a matter of organisational capacity, training, internal processes, user support and change management.

Through its planned investment in the digitalisation of sustainable mobility, MOK has already defined several operational building blocks for future management: the establishment and upgrading of a digital platform, a digitised car park register, integration with CeKR, an online payment and e-commerce system, the upgrading of support for public passenger transport, the KRskOLESOM module, the multimodality module, IT equipment for monitoring urban passenger transport, studies for a zero-emission zone, the revision of the ' ' digital development strategy, the upgrade of the accessibility map and the digital walkability map.

The overall assessment of the current situation is that MOK has a wide-ranging set of digital solutions, IoT assets, data sources and innovation partnerships; however, their operational value is limited due to fragmentation, inconsistent management, incomplete insight into data from external operators, a lack of standardised integrations and unclear responsibilities regarding the operation of these assets. The key developmental shift for all four pillars is therefore the establishment of a unified management, data and service model, in which existing solutions will be integrated into the MOK's common digital architecture.

3.4.1.1 Staff perspectives at MOK

Staff feedback indicates that MOK's digital management is currently in a phase of transition from the partial digitisation of individual procedures to the need for comprehensive process, project and data management. Employees highlight not only the need for new applications, but above all the need for clear rules, better process management, less manual work, better integrations and greater accountability in the performance of tasks.

The first common insight is the need for a unified project and process environment. ***There is a lack of a municipal programme for managing projects and work processes, which means that things move too slowly, accountability***



is lost, and deadlines are not managed clearly enough. The workshop proposals equally emphasise the use of project tools, project collaboration, reducing unnecessary emails and organising shared folders.

Another common insight is the need for process digitalisation through integrations, not merely digital forms. The Transport Department highlights that progress has already been made on permits, but automatic document posting between the application and Government Connect is lacking. ***Similarly, in public procurement, Cadis, record-keeping orders and e-business, there is a need to simplify steps, establish a clear workflow and improve status tracking.***

The third common insight is the need for digital status tracking and ticketing systems. Staff highlight the problem of duplicate emails, too many people involved, and the need for a centralised system for citizens' requests. ***The municipal police highlight reports of offences, photographs, location, status tracking and feedback.***

The fourth common insight is the need for AI support for repetitive administrative and technical tasks. Staff specifically highlight the use of AI for preparing opinions, approvals and permits, as these tasks involve a significant amount of bureaucratic work. The workshop results further confirm the interest in an in-house LLM and regular staff training on the use of AI tools.

The fifth common insight is the need for skills development and organisational change. Digital tools will not deliver the expected results without a change in organisational habits, training and clear process owners.

The sixth common insight is the need for secure and trustworthy management of digital solutions. The workshop proposals include a unified security policy for MOK and its affiliates, as well as penetration tests for internal infrastructure and processes (social engineering, phishing, etc.).

3.4.2 Pillar objectives

Objective 3.1: Establish central coordination of digital development within the City of Kranj

The objective is to ensure that digital systems are no longer managed exclusively on a project-by-project or departmental basis, but within the framework of a common management model. PIZ emphasises that, in a modern community, digital



systems function as a nervous system; they must therefore be centrally managed or coordinated, as this is the only way to ensure the integration of systems and the exploitation of synergies.

Objective 3.2: Clearly define ownership, management and responsibilities for digital assets

The objective is to define, for each application, IoT asset, data source and integration, the business owner, technical administrator, data controller, service provider, contractual basis, SLA or service level, method of funding and rules for changes. This is particularly important for assets where the current status is listed as 'to be verified', 'no information on the manager' or 'the municipality has no insight'.

Objective 3.3: Establish portfolio management of digital projects

The aim is for digital projects to be treated as an interconnected portfolio, rather than as separate initiatives. This entails joint prioritisation and coordination of budgets, timelines, staffing, public procurement, integrations, maintenance and expected outcomes. The iCapital documentation highlights that Kranj, in projects such as KReATIVE, is developing portfolio transformation models where mobility, climate and digital innovation are treated as interconnected rather than in silos.

Objective 3.4: Introduce common standards for the public procurement of digital solutions

The aim is to specify, in advance, the requirements for new contracts regarding open interfaces, data exchange, security, documentation, data ownership, portability, compliance with legislation and the possibility of integration into Smart Kranj. This reduces the risk of new closed and unconnected solutions.

Objective 3.5: Establish a system for monitoring the impact of digital solutions

Performance indicators must be defined for each major solution, such as the number of users, the level of service usage, the time taken to resolve requests, system availability, data quality, the reduction in manual processes, the impact on mobility, the impact on accessibility, the impact on emissions and user satisfaction. The PIZ anticipates that the main outcome of the project will be a digitised urban transport system, with a target of one system in place by 2029.

Objective 3.6: Strengthen the digital skills of employees and users



The aim is to ensure that staff at the Municipality of Kranj (MOK), public institutions and associated organisations are able to use new solutions, understand the data and incorporate it into their work. PIZ points out that some existing solutions are underutilised because there is insufficient information or knowledge about how to use them, whilst staff workload makes it difficult to adopt new systems.

Objective 3.7: Ensuring long-term maintenance, upgrades and financial sustainability of solutions

The aim is to determine, at the time of introduction, the costs of operation, upgrades, licences, hosting, support, equipment replacement and long-term development for each digital solution. PIZ points out that most equipment and intangible assets require upgrades or replacement during the project's economic life, so MOK must ensure that these costs are properly planned for.

Objective 3.8: Connect digital governance with the green transition and climate neutrality

Digital management must support the objectives of sustainable mobility, reducing emissions, improving air quality, increasing accessibility and enhancing quality of life. The PIZ states that the project will contribute to increasing the share of sustainable modes of transport in daily commutes, reducing greenhouse gas emissions, and improving air quality and quality of life in the MOK.

3.4.3 Strategic programmes

Table 19: Strategic programmes under the Digital Governance and Operations pillar

Programme	Project
DGO1: Cybersecurity, Privacy and Digital Trust	A unified policy on cybersecurity, privacy and digital trust policy for MOK and related parties
	Penetration tests, security validation of Smart Kranj, suppliers and critical systems
DGO2: Digital workplace and project collaboration at MOK	Unified digital project, document and collaboration environment for MOK
	Integrated internal self-service processes: Codeks, travel orders, vehicles and resource reservations
DGO3: Optimisation of internal processes and e-business	Digitalisation of public procurement, procurement committees, recorded orders and strategic GovTech procurement
	Municipal process platform with AI support for permits, opinions, consents and development procedures



	E-budget, e-business and simplification of Cadis, GC and ZKP processes
	E-inspection and digitalisation of inspection and offence procedures
	Digital operational platform for municipal police covering reports, offences, field operations and service coordination
	Digital support for school administrative processes and the procurement of services for activities
DGO4: AI support for employees and internal LLM	Internal LLM and AI assistant for MOK employees
	Regular employee training programme for AI and GovTech tools
	Operational framework for the responsible use of AI, data and local AI governance
	AI and predictive analytics for mobility, environment and energy
DGO5: Digital competences, onboarding and organisational development of the MOK	Digital skills model, role updates and staff development at MOK
	Digital onboarding, mentoring and e-learning platform for MOK processes

3.4.3.1 KPIs for strategic programmes

Table 20: KPIs for strategic programmes under the Digital Governance and Operations pillar

Programme	KPI	Current status (2026)	Target status (2029)	Target status (2032)
DGO1	KPI 3.1: Share of key digital systems with a completed security review	No data	20 %	30
	KPI 3.2: Time required to resolve critical vulnerabilities	10 days	5 days	3 days
DGO2	KPI 3.3: Share of key projects managed in a unified project management tool	0%	20%	40
	KPI 3.4: Average age of key ICT equipment	6.51 years	6.2 years	less than 6 years
DGO3	KPI 3.5: Number of digitised internal self-service procedures	5	10	20
	KPI 3.6: Number of digitalised priority internal or administrative procedures	10	40	70
	KPI 3.7: Average processing time for selected procedures (procurement, notification, data requests)	No data	-25%	-40 %



DGO4	KPI 3.8: Proportion of relevant employees actively using the internal LLM or AI assistant	15 %	30 %	60
	KPI 3.9: Number of approved AI use cases	0	10	20
DGO5	KPI 3.10: Share of key job positions with defined digital competences	10 %	80%	100
	KPI 3.11: Share of new employees included in digital onboarding	0%	90 %	100%

3.4.4 Details of strategic programmes

DUO1: Cyber security, privacy and digital trust

In the field of cyber security, we would particularly like to highlight the MOK's desire to develop cyber security and trust mechanisms in accordance with the ISO 27001 standard, which, despite being too rigorous for local authorities and likely to significantly hamper operations, serves as an important guideline for process development. We would particularly like to highlight the following projects:

1. Development of a unified policy on cyber security, privacy and digital trust for the Municipality of Kranj and its affiliates
2. Penetration testing, security validation of infrastructure, suppliers and critical systems

The aim is to carry out penetration tests and checks on critical applications such as Pametni Kranj, CeKR, the data platform and UrbanMind, as well as internal applications such as Cadis and Jantar. It is also crucial to ensure that external contractors carry out such tests as part of the procurement process.

DUO2: Digital working environment and project collaboration at MOK

In the area of digital operations and project collaboration, we would particularly highlight the project management process, which is currently relatively poorly covered. There is a project management policy in place, but it does not exist in digital form – more precisely, only the Axis tool for managing construction projects is used for project management. The approach to project management is fragmented amongst the heads of individual units, which hinders the transfer of best practice, collaboration, transparency regarding project progress and KPIs.

MOK has adopted project management guidelines which define the basic activities of project management – the preparation of a project idea or initiative, the appointment of a project manager and project team, the definition of



objectives, scope, deadlines, milestones, budget, risks and expected outcomes; the preparation of project documentation; project approval; regular monitoring of implementation; progress reporting; change management; monitoring of resource utilisation; and project closure with an evaluation of the achieved outcomes. In practice, project managers or heads of offices/units are typically responsible for the project management system. The system typically varies between departments/managers, which is one of the reasons why many projects are managed by individual project leads.

Digital project management tools can significantly assist in carrying out the tasks set out in the regulations, as they enable the centralised recording of projects and provide an overview of responsibilities, deadlines, tasks, documents, risks, decisions, financial status and KPIs. The introduction of a digital project management tool would facilitate cross-departmental collaboration, reduce duplication of work, improve the traceability of decisions, enable the transfer of best practice between units, and provide management with a better overview of the implementation of strategic, investment and digital projects.

In the short term, therefore, the proposal is to improve project management by:

1. The use of a project management tool
2. A centralised portfolio of the municipality's projects, programmes and KPIs
3. Training staff in project management
4. Establishing and designing cross-departmental projects

DUO3: Optimisation of internal processes and e-business

Within the strategic programme, we highlight the procurement process, which is one of the key support processes of the municipal administration and affects virtually all areas of the municipality. This process often presents challenges related to understanding procedures, preparing documentation, approval, traceability, communication between departments and lead times, as the process is administratively demanding.

We are addressing the digitalisation of procurement through the following priority projects:

- Digitisation of public procurement, procurement committees, record-keeping orders and strategic GovTech procurement



- A municipal process platform with AI support for permits, opinions, consents and development procedures
- eBudget, e-business and the simplification of Cadis and GC processes
- Digital support for school administrative processes and the procurement of services for activities

In particular, short-term opportunities are emerging for:

1. Creating shared folders with templates, forms, instructions and advice
2. Developing an LLM assistant to help complete forms
3. Assistance in drafting procurement terms and evaluation criteria
4. Standardisation in the area of software solution procurement

In the long term, it is also worth considering:

1. Procurement of specialised software tools for procurement
2. A detailed analysis of the procurement process and its bottlenecks, and the development of specific tools to support the procurement process at these bottlenecks

DUO4: AI support for employees and an internal LLM

In the field of artificial intelligence, we emphasise above all the need for secure, controlled and practical support for employees in their day-to-day work. Feedback from employees indicates an interest in using AI primarily for repetitive administrative and professional tasks, such as the preparation of opinions, approvals, permits, summaries, letters, explanatory notes, minutes, analyses and draft documents. The aim of the programme is not to replace employees' professional judgement, but to reduce administrative burdens, speed up the preparation of materials, improve the quality of documents and free up more time for substantive work.

We would particularly like to highlight the following projects:

1. Internal LLM and AI assistant for MOK staff
2. Regular staff training programme on AI and GovTech tools
3. An operational framework for the responsible use of AI, data and local AI governance
4. AI and predictive analytics for mobility, the environment and energy

The aim of the programme is to establish an internal AI environment that enables staff to use generative artificial intelligence safely for tasks where the benefits are



clear and the risks are manageable. The internal LLM or AI assistant should primarily support the drafting of documents, searching through internal materials, summarising longer documents, preparing responses, assisting with forms, preparing project content, providing support for public procurement, and helping staff to understand rules, procedures and internal guidelines.

In the short term, the proposal is to establish AI support through:

1. selecting the first safe and useful use cases for staff
2. developing an internal AI assistant to work with publicly available, internal and procedural content from the Municipality of Kranj – a pilot project, to be scaled up only after proof of value
3. the development of a library of templates, guidelines, forms, frequently asked questions and examples of good practice
4. pilot use of AI in the preparation of letters, summaries, minutes, explanatory notes and draft opinions
5. pilot use of AI to support procurement, prepare tender specifications, verify documentation and formulate evaluation criteria
6. training staff in the safe and effective use of AI tools
7. establishing clear rules on which data may be used in AI tools and which may not.

It is particularly important that the IOC establishes an operational framework for the responsible use of AI. This framework must include:

1. a rule that AI produces drafts rather than final decisions (human-in-the-loop verification)
2. mandatory human verification of all content prior to use
3. a ban on entering sensitive personal data into unauthorised AI tools
4. clear rules regarding the use of personal, confidential, contractual and security-sensitive data
5. traceability of AI use in key processes
6. designation of persons responsible for AI management
7. Regular updating of the rules in line with legislation, practice and technological developments.

In the long term, it makes sense to develop AI as a horizontal support for the MOK's operations. This means that AI is not limited to individual pilot projects, but becomes part of process, data and project management. More advanced



examples of applications can be developed in the areas of mobility, the environment and energy, where predictive analytics can help forecast traffic flows, car park occupancy, environmental risks, anomalies in energy or water consumption, and other urban phenomena.

DUO5: Digital skills, onboarding and organisational development at MOK

The development of digital competences is one of the key prerequisites for the successful implementation of the digital strategy and is also defined within the horizontal pillar of Change Management, alongside the training plan. Digital solutions do not, in themselves, deliver results if staff lack sufficient knowledge, time, support and clear instructions on how to use them. The current situation shows that some solutions have been underutilised or even abandoned because there was insufficient information about them, because there was a lack of knowledge on how to use them, or because staff were overburdened with additional tasks. Therefore, the digital transformation of MOK is also an organisational and human resources project, not merely a technological one.

We would particularly like to highlight the following projects:

1. Digital Competence Model, role modernisation and staff development at MOK
2. Digital onboarding, mentoring and an e-learning platform for MOK processes

In the short term, the proposal is to improve digital competences through:

1. developing a digital skills model for key roles; reviewing existing roles, tasks and processes where digitalisation is changing the way work is carried out
2. defining minimum digital skills for staff according to their area of work
3. introducing regular basic training on the use of key municipal applications
4. the development of brief, practical guides for the most common procedures
5. Establishment of an e-learning platform containing instructions, video tutorials, forms, examples and frequently asked questions
6. introducing mentoring for new staff and staff taking on new digital responsibilities.

Digital onboarding is a particularly important part of the programme. At present, much knowledge is transferred informally, via colleagues, email, individual folders or verbal explanations. This increases the risk of knowledge being lost, of



new staff taking a long time to work independently, and of procedures being carried out differently across departments. Digital onboarding must therefore provide new staff with a structured introduction to:

- the MOK organisation and key internal processes
- the use of basic applications, such as the document management system, HR systems, project tools and internal records
- rules for handling documents, data and personal data
- cyber security and basic digital hygiene
- the use of shared folders, templates, forms and instructions
- project work, reporting and task monitoring
- the use of AI tools and the rules for responsible use
- contact persons or mentors for specific areas.

3.5 Pillar 4: Digital Economy and Ecosystem

The Digital Economy and Ecosystem pillar brings together projects that strengthen Kranj's capacity for innovation, cooperation between the City of Kranj (MOK) and the local economy, and the development of advanced technologies, the entrepreneurial environment, talent and digital skills. The aim of this pillar is for the MOK to act not merely as a procurer of digital solutions, but as a development partner within the local ecosystem.

3.5.1 Analysis of the current situation

Kranj has a developing innovation and digital ecosystem that extends beyond the internal digitalisation of the municipal administration. In addition to the City of Kranj, the local and regional digital ecosystem includes public institutions, public enterprises, external technology providers, concessionaires, companies in the energy and infrastructure sectors, development institutions and the business support environment. The role of the City of Kranj is therefore twofold: on the one hand, it is a user and procurer of digital solutions; on the other, it acts as a connector of data, services, innovation partners and public needs.

In the field of support for entrepreneurship and innovation, **Kovačnica** stands out as a business incubator and **BSC Kranj** as a regional development institution. Kovačnica is a business incubator that has supported more than 200 innovative start-ups in recent years, whilst BSC Kranj is a development organisation that



supports start-ups, SMEs, investors and local communities, and contributes to the digital transformation and internationalisation of businesses.

The use of open data, city data platforms and smart city services for the development of new products, services and business models represents significant development potential.

Through the Smart Kranj, Smart Mlaka, UrbanMind, CeKR and TIP projects, the municipality is already testing models of collaboration with technology companies, banks, mobility solution providers and research institutions. UrbanMind is being developed as a data hub for environmental and transport data, Smart Mlaka as a smart neighbourhood pilot, and Smart Kranj as a platform for the smart city and sustainable mobility.

Departments responsible for enabling the digital economy and ecosystem utilise or monitor solutions such as GIS Igea, PISO, TRAFFI, UrbanMind, RIDANGO/Avera, Jantar, Smart Kranj, CeKR, MIPA, LF3M, VizijeMobilnosti, KRskOLESOM, Conforma and SiVrtci. External operators of critical infrastructure and data sources are also present in the ecosystem, including Petrol, Domplan, Komunala Kranj, GEN-I, Vigred and Elektro Gorenjska. In several infrastructure areas, the municipality lacks access to data, for example regarding energy supply sensors, public distribution systems, gas consumption, water mains pressure, solar power plants, street lighting, the fibre-optic network and the electricity grid. This means that the data and business potential of the digital ecosystem remains untapped, as there is no unified model for data access, sharing and management between the municipality, public enterprises, concessionaires and private providers.

The current state of the digital economy and ecosystem pillar can therefore be assessed as promising, but unevenly developed. There are strong individual projects, active innovation partners and several successful pilot schemes, but the digital ecosystem is not yet fully integrated into a unified data, service and management environment.

3.5.1.1 Insights from MOK staff

Surveys conducted amongst employees, public institutions and associated organisations indicate that better integration of the city's needs with local expertise, businesses, start-ups and educational institutions is crucial for the development of the digital economy. Interviewees do not view digitalisation merely



as a technical project, but as an opportunity to develop new services, learn, pilot initiatives, raise the city's profile and engage the local community.

The most pressing impetus is the need for systematic digital literacy.

The responses to the questionnaire highlight that the quality of the user experience is closely linked to users' digital literacy; therefore, before introducing more complex solutions, it is essential to ensure an understanding of basic digital services such as digital certificates, e-Government, e-Taxes and zVEM. KReativnica () could serve as an important, neutral community space for showcasing new technologies, learning, knowledge transfer, business presentations and fostering a creative community.

Staff have also proposed a Digital Support Centre for citizens and a unified platform for educational services, where users would be recommended suitable organisations, programmes and services based on their individual circumstances.

On the business and innovation front, there is a need for the Municipality of Kranj (MOK) to become a pilot partner for testing new solutions. Staff see opportunities in collaborating with companies and start-ups on the development of traffic and parking management systems, digital communication with citizens, traffic flow analytics and safety in public spaces. Similarly, the role of the Municipality of Kranj as a pilot partner for development projects with the business sector and regional development institutions was highlighted.

The opportunity for smart lighting as an intelligent urban infrastructure was also highlighted, as it reduces costs, energy consumption and light pollution whilst improving safety and management.

3.5.2 Pillar objectives

Objective 4.1: Strengthen the local innovation ecosystem for smart city development

The City of Kranj should strengthen its collaboration with businesses, start-ups, SMEs, research organisations, public institutions and civil society in developing solutions in the fields of mobility, energy, the environment, data, public services and quality of life. In doing so, it can draw on existing actors such as Kovačnica and BSC Kranj, which are identified in the iCapital documentation as key drivers of



support for entrepreneurship, innovation, digital transformation and the internationalisation of businesses.

Objective 4.2: Develop data as a development asset for the local economy

The aim is to gradually establish the conditions so that the City of Kranj's structured, secure and, where necessary, open data can also be utilised by local developers, technology companies, researchers and public services. The iCapital documentation highlights that Kranj's digital development strategy promotes open access to data and digital training, whilst the city's data platform provides structured data for local developers and technology-based SMEs.

Objective 4.3: Establish a clear cooperation model with external infrastructure and data managers

As some key data sources are managed by external stakeholders – for example, in the fields of energy, water supply, public lighting, fibre-optic networks, car parks and transport – the aim is to draw up agreements on data access, exchange, ownership, quality and use. This is important for reducing the current fragmentation and for making better use of data which the municipality currently often fails to see or is unable to incorporate into its decision-making processes.

Objective 4.4: Promote pilot projects, test environments and the transfer of good practices into regular operations

The City of Kranj should continue to use the city as a test environment for smart community solutions, but with the aim of ensuring that successful pilot projects transition into stable operational use. This applies to solutions such as Smart Mlaka, UrbanMind, Smart Kranj, CeKR, data spaces, smart mobility, environmental monitoring and digital services for citizens.

Objective 4.5: Increase the economic value of digital solutions

MOK's digital solutions should not be intended solely for the municipality's internal efficiency, but also for creating opportunities for local businesses, service providers, developers, the tourism sector, mobility providers, cultural and sporting institutions, and public bodies. The aim is for the city's digital infrastructure to become a platform for new services, not merely a collection of municipal applications.

Objective 4.6: Strengthen Kranj's visibility as a reference smart city



Kranj should consolidate its role as a city that develops replicable and transferable solutions for smart communities. The iCapital documentation states that Kranj is already positioning itself as a model city for digital and green transformation, with examples such as CeKR, Smart Mlaka, UrbanMind and European collaborations.

3.5.3 Strategic programmes

Table 21: Strategic programmes of the Digital Economy and Ecosystem pillar

Programme	Project
DEE1: Promotion of digital projects, AI and urban opportunities	MOK's public portfolio of digital projects, flagship projects and progress updates
	Promotional events, campaigns and multi-channel communication for AI and digital services
DEE2: Cooperation between the MOK and the local economy	Platform for cooperation between the MOK and the local economy in the development of digital city services
	GovTech marketplace, compliance and supplier ecosystem for identifying and implementing solutions
DEE3: Startup, Scaleup, Deeptech and 5G Ecosystem	Kranj as a living lab / test city for AI, 5G, deep tech and GovTech pilots
	Upgrade of OpenLab, Kovačnica and the TIP platform with hackathons, scaleup and deeptech programmes
DEE4: Talent, mentoring and linking education with the economy	Digital literacy for citizens and Kreativnica as a city digital learning and innovation hub
	Platform for digital support and adult education, and mentoring between the education and the economy sectors

3.5.3.1 KPIs for strategic programmes

Table 22: KPIs for strategic programmes under the Digital Economy and Ecosystem pillar

Programme	KPI	Current status (2026)	Target status (2029)	Target status (2032)
DEE 1	KPI 4.1: Number of digital projects published in the public portfolio	0	25	45
	KPI 4.2: Number of promotional events, campaigns or presentations	2 per year	8 per year	12 per year
DEE 2	KPI 4.3: Number of companies involved in the digital ecosystem	15	60	120
	KPI 4.4: Number of pilot projects with the local economy	2	8	15
DEE 3	KPI 4.5: Number of technology pilot projects	1	8	15



	KPI 4.6: Number of involved start-ups, scale-ups or deep-tech teams	10	35	60
DEE 4	KPI 4.7: Number of participants in digital literacy and education programmes	300/year	1,000 per year	1,500/year
	KPI 4.8: Number of school-business, mentoring or learning projects	5	20	35

3.5.4 Details of strategic programmes

DGE1: Promotion of digital projects, AI and urban opportunities

Kranj already has a number of high-profile digital and innovation projects, such as Smart Kranj, Smart Mlaka, UrbanMind, CeKR, KRskOLESOM, KrPovej, digital participation, open data, smart mobility and climate neutrality projects; however, these are not always presented to citizens, businesses and the wider ecosystem as a cohesive portfolio of digital transformation.

We would particularly like to highlight the following projects:

1. MOK's public portfolio of digital projects, top projects and progress updates
2. Promotional events, campaigns and multi-channel communication for AI and digital services

The aim of the programme is to increase the visibility of MOK's digital projects, improve understanding of their practical value and encourage greater use of digital services among citizens, businesses, public institutions and partners.

In the short term, the proposal is to promote digital projects through:

1. a public presentation of the portfolio of MOK's key digital projects – a dedicated website with a content management system – a pilot project on the digital strategy, an upgrade to TUS+ and the Climate Pact
2. selection and presentation of "top digital projects" with a clear description of the benefits for citizens and businesses
3. presenting project progress in an accessible format, for example status, phase, benefits, deadlines and next steps
4. preparation of communication campaigns to promote the use of services such as CeKR, Smart Kranj and domain-specific applications
5. presentations of new AI and digital tools for employees, public institutions, businesses and citizens



6. multi-channel communication via websites, apps, social media, events, local communities and local media

It would be sensible to establish a digital portfolio as a permanent public overview of the progress of the digital strategy. This could include a description of projects, objectives, expected outcomes, implementation phase, related KPIs, opportunities for stakeholder involvement and links to services that are already available.

DGE2: Cooperation between the City of Kranj and the local business community

Kranj has a diverse economic structure, a presence of technology companies, an active support environment and several projects where the potential for cooperation between the municipality, businesses, public institutions, concessionaires and research partners is already evident.



Figure 13: Cooperation between the City of Kranj (MOK) and the local ecosystem

The TIP platform, or more broadly the environment for connecting talent, innovation and entrepreneurship, plays a special role. It can serve as a gateway for addressing urban challenges, fostering entrepreneurial initiatives, linking education and the economy, promoting development opportunities and involving local businesses in smart city projects.

The starting points for further improving cooperation with the business sector are:

- establishing a public list of urban challenges for which the Municipality of Kranj is seeking solutions or partners
- the preparation of a standard form for businesses to submit solutions, pilot projects or proposals
- organising regular meetings between the City of Kranj and local businesses and technology providers



- linking urban challenges with Kovačnica, BSC Kranj, TIP, educational institutions and public bodies
- involving the local business community in the development of solutions in the fields of mobility, parking, the environment, energy, tourism, culture, health, sport and public services.

In the long term, it makes sense to establish a GovTech marketplace or supplier ecosystem, where the City of Kranj transparently links the needs of the public sector with solutions provided by businesses. Such a system could include a catalogue of verified solutions, indicative compliance criteria, an overview of pilot projects, rules for participation and a link to public procurement.

In the longer term, it is also worth exploring the development of a systemic model for innovative public procurement, pre-commercial procurement, dynamic purchasing systems and pilot clauses in tenders. This would make it easier for the City of Maribor to test new solutions, whilst maintaining the compliance, transparency and competitiveness of procedures.

DGE3: Start-up and scale-up ecosystem

In the area of the start-up and scale-up ecosystem, we particularly highlight the need for Kranj to systematically develop its role as a test bed for advanced technologies, smart city initiatives, AI, 5G, blockchain, robotics, deep tech and GovTech solutions. In addition to AI, 5G, IoT, data platforms and digital twins, the City of Kranj is also monitoring other advanced technologies, such as blockchain, robotics, automation, advanced sensor technology and trust technologies. The City of Kranj already has several important initiatives in this area:

- Kovačnica as a business incubator,
- BSC Kranj, as a regional development institution,
- the TIP project,
- deep-tech projects Smart Mlaka, UrbanMind, CeKR, KReACTIVE, OpenLab,
- urban infrastructure (sensors, data, 5G network, servers, etc.)
- collaboration with research and technology partners.

The vision set out in the digital development strategy is for Kranj to be positioned as a living lab or test city for AI, 5G, blockchain, robotics, deep tech and GovTech pilot projects. We also aim to enhance OpenLab, Kovačnica and the TIP platform with hackathons, scale-up and deep tech programmes



Kovačnica plays a special role in this as a physical and programme-based hub for entrepreneurship, mentoring, events, co-working and the development of entrepreneurial initiatives. To date, it has supported more than 200 innovative start-ups, which provides a solid foundation for developing more specialised programmes in the fields of digital urban solutions, GovTech, deep tech, green technology, the circular economy and data services.

In the short term, the proposal is to develop the start-up and scale-up ecosystem by:

1. compiling a list of urban problems suitable for start-up, scale-up and research-based solutions
2. organising hackathons to tackle specific urban challenges
3. linking Kovačnica, OpenLab, TIP, BSC Kranj, schools, faculties, research organisations and businesses
4. establishing 'living lab' guidelines for testing solutions in an urban environment
5. carrying out the first pilot projects in the fields of AI, mobility, parking, the environment, energy, tourism, culture, public safety or data
6. the involvement of young people, students, developers and local businesses in co-creating solutions
7. presentation of the pilot projects in the City of Maribor's public portfolio of digital projects.

Particular attention must be paid to the transition from pilot projects to regular implementation. In practice, it often happens that pilot projects are successfully implemented but do not receive further funding, a lead organisation or a place within regular processes. Therefore, every technology pilot must, from the outset, have a defined potential for scaling up, success criteria, a potential owner following the pilot's completion and an estimate of the costs of regular operation.

DGE4: Talent, mentoring and linking education with the economy

In the area of talent, mentoring and linking education with the economy, we emphasise above all the need for the systematic development of digital skills within the wider community, not just within the municipal administration. In this area, we highlight the following projects in particular:

1. Digital literacy for citizens and KReativnica as a municipal digital learning and innovation hub



2. A platform for digital support and adult education, and mentoring between the education sector and the business sector

The aim of the programme is to establish a broader system of digital literacy, mentoring and knowledge sharing. The programme must cater to various user groups: citizens who need assistance with basic digital services, older people and vulnerable groups, young people wishing to develop digital and entrepreneurial skills, adults who need to retrain or upgrade their skills, and businesses seeking staff and collaboration with educational institutions.

KReativnica can act as a neutral urban hub for learning and innovation. Its role could include showcasing new technologies, running workshops, promoting digital literacy, assisting with the use of public e-services, coordinating educational programmes, hosting business presentations, organising community meetings and engaging citizens in the digital transformation.

3.6 Horizontal links in the digital transformation

3.6.1 Horizontal link 1: Link with the City of Kranj's Sustainable Urban Strategy

The City of Kranj's Sustainable Urban Strategy 2030+ is the city's overarching development framework. The (n)TUS sets out what the City of Kranj aims to achieve in the areas of the economy, mobility, the environment, youth, culture, sport, tourism, health, safety and governance. The ' ' digital development strategy is a key enabling document that defines how data, digital services, artificial intelligence, the Internet of Things (IoT), the city data platform, GIS, digital twins, CeKR, Smart Kranj and digitised internal processes will help to achieve these objectives more quickly and in a more measurable way.

TUS Kranj 2030+ is based on six priority thematic areas and nine strategic objectives, including horizontal objectives such as smart, sustainable and climate-neutral management, a financially sustainable municipality, and the harmonious development of the city and the countryside. Within the TUS, digitalisation is specifically incorporated into the 'Smart Kranj' measure, which envisages a digital platform, data infrastructure, e-government, e-space, e-budget, e-participation, e-urban mobility, e-safe society, e-environment, e-waste, e-energy, e-health, e-tourism and other digital verticals.

Contribution of the digital strategy to the TUS+ objectives:



Table 23: Contribution of the digital strategy to the TUS+ objectives

TUS area / objective	How the digital strategy contributes	TUS KPIs to which it contributes
TP1: Kranj, an innovative smart city	The digital strategy directly supports the development of Kranj as a benchmark city for the implementation of smart solutions. It contributes through the Smart Kranj platform, the city's data infrastructure, CeKR, AI, GovTech pilots, collaboration with businesses, start-ups, OpenLab, Kovačnica and the local innovation ecosystem.	K1.3 City card users K1.8 Broadband penetration K1.5 Number of supported SMEs K1.6 Young people in creativity programmes K1.2 Value added per employee.
TP2: Kranj, a sustainable, mobile and connected city	Digitalisation enables a real-time traffic overview, MaaS (Mobility as a Service) or a multimodal module, smart parking, a digital car park register, integration with public transport, KRskOLESOM, SIPARK, passenger counters, mobility data and user notifications. Without a digital layer, sustainable mobility remains disconnected and less useful.	K2.10 Cities with digitised urban transport systems K2.4 Public transport users K2.6 Number of cyclists K2.3 traffic congestion on access roads K2.1 Reduction in CO2 emissions K2.2 PM10
TP3: Kranj, a green city	The digital strategy supports the smart management of energy, waste, water, lighting, environmental data and natural resources. Key contributions lie in sensor technology, environmental monitoring, energy monitoring, e-waste, the e-environment, e-energy and public dashboards.	K3.1 Primary energy consumption in public buildings K3.2 Reduction in CO2 emissions K3.5 Proportion of waste collected separately K3.6 Municipal waste per capita K3.12 Energy production from renewable energy sources K3.3 and K3.4: Water quality of the Sava and Kokra rivers
TP4: Kranj, a city for young people	The digital strategy supports a modern learning environment, access to ICT in primary schools, digital literacy, programmes for young people, lifelong learning, mentoring, digital support for adults and the involvement of young people in digital initiatives.	K4.5 Access to ICT in Kranj's primary schools K4.6 Proportion of primary schools offering an entrepreneurship and creativity programme K4.7 Participants in lifelong learning



		K4.1 Working-age population with higher and tertiary education.
TP5: Kranj, a vibrant and active city	The digital strategy contributes through a digital cultural and tourism platform, online tickets, an events calendar, QR content, a digital museum, audio/VR guided tours, a tourist card, digital benefits, bookings for sports facilities and the promotion of Old Kranj.	K5.1 tourist overnight stays K5.2 Visitors to the Gorenjska Museum K5.3 Members of Kranj Municipal Library K5.6 proportion of vacant premises in Old Kranj K5.12 Green destination status K5.4 Residents taking part in regular sport and leisure activities
TP6: Kranj, a healthy, safe and inclusive city	The digital strategy does not replace national healthcare systems or social services, but it can support accessibility, information provision, assistance with the use of zVEM, digital support for older people, telecare, reporting, security systems, public order, interventions and crisis communication.	K6.2 Responsiveness within the SVIT programme K6.3 Number of violations and safety indicators K6.5 New social care, healthcare and community services
H1: Smart, sustainable and climate-neutral management of Kranj	This is the strongest horizontal link. The digital strategy establishes the data, service and management foundation for a 'one-stop shop': a city data platform, shared dashboards, AI support, digital communication, integrations and KPI monitoring.	It indirectly supports most of the TUS indicators, particularly K1.3, K2.10, K3.1, K3.2, K4.5, K5.1 and service management indicators.
H2: A financially sustainable local authority	Digitalisation contributes through e-budgeting, the digitalisation of public procurement, project management, improved cost monitoring, more efficient processes, less manual work, better utilisation of EU funds and data-driven decision-making.	It indirectly supports the TUS financial framework, the efficiency of project implementation, monitoring of the NRP, project priorities and the utilisation of external resources.
H3: Balanced urban and rural development	Digital services reduce the gap between city centres, suburbs and rural areas: equal access to information, notifications, digital applications, participation, training, events, municipal information and services across local communities.	K4.7 Participants in lifelong learning K5.8 Innovative projects in rural areas Indicators of the use of digital services, communication and participation



The link between the digital strategy and the TUS is strongest in measures where the TUS already provides for digital platforms, data infrastructure, smart city initiatives, mobility data, e-services, CeKR and digital governance. Particularly closely linked are the 'Smart Kranj' measure, the KPI for city card users, the KPI for broadband access, the KPI for digitised transport systems, the KPI for ICT accessibility in schools, energy and environmental monitoring, digital tourism services, and digital services for older people and vulnerable groups.

Digitalisation as an enabling component of TUS+

Digitalisation enables the TUS at four levels:

1. **User level:** TUS envisages higher-quality, more accessible and better-connected services for citizens. The digital strategy enables this through the single point of entry 'Smart Kranj', CeKR, digital applications, bookings, payments, notifications, status updates on procedures, digital events, mobility information and user support. This contributes directly to the objectives of the smart city, sustainable mobility, active living, culture, tourism, health and inclusion.
2. **Data level:** To achieve climate neutrality, sustainable mobility, natural resource management and effective development, the TUS requires reliable data. The digital strategy therefore establishes a city data platform, a catalogue of data sources, GIS, digital twins, IoT streams, open data and dashboards.
3. **Operational level:** TUS envisages more than just investments; it requires the City of Maribor to have the capacity to manage, monitor, finance and maintain projects. The digital strategy supports this through a digital project environment, e-budgeting, the digitisation of public procurement, process tools, AI support for staff, a security policy and the development of digital skills.
4. **Ecosystem level:** The TUS highlights Kranj as an innovative, smart and technologically advanced city. The digital strategy translates this into implementation mechanisms: a living lab, GovTech collaboration, urban challenges for businesses, testing of AI, 5G and IoT solutions, talent development, digital literacy and the integration of the City of Kranj with the local economy.



3.6.2 Horizontal link 2: The digital strategy's contribution to the green transition

The MOK's digital strategy is one of the key enablers of the green transition. The green transition in Kranj is based on physical measures such as the modernisation of energy systems, sustainable mobility, renewable energy sources, energy-efficient refurbishment of buildings, the circular economy, smart waste management, water resource management, and green infrastructure. The digitalisation of these measures does not replace them, but makes them more data-driven, measurable, useful, effective and transparent.



Figure 14: Kranj is one of the cities participating in the '100 Climate-Neutral and Smart Cities' mission

Kranj's Climate Agreement, or Action Plan for Climate Neutrality, cites total emissions of 238,832 tonnes of CO₂e in 2018 as its baseline, with the majority of emissions originating from transport and buildings. Kranj has set itself the target of reducing emissions by at least 80 per cent by 2030, with municipal and partner measures playing a significant role in closing the emissions gap. In this context, the digital strategy contributes primarily to the implementation, monitoring and optimisation of measures, rather than necessarily always directly to the reduction of emissions in its own right.

Kranj's Climate Neutrality Investment Plan estimates the total investment framework for the period 2018–2030 at approximately EUR 366 million, with the largest areas being energy systems, mobility and transport, the built environment,



waste and the circular economy, and green infrastructure. The plan specifically emphasises that energy systems and mobility are the most significant sectors in terms of transport and emissions, whilst horizontal measures – which also include digital and organisational innovations – do not always have a direct impact on emissions but enable the implementation, adoption, management and monitoring of climate measures.

Digitalisation must therefore be understood as a decision-making infrastructure in the green transition. It enables the City of Ljubljana to identify where emissions are occurring, which measures are effective, where bottlenecks arise, how user behaviour is changing, and which projects deliver the greatest impact relative to the resources invested. Without a data platform, IoT sensors, GIS, digital twins, energy monitoring, mobility data and shared dashboards, the green transition would be less well-targeted, slower and more difficult to demonstrate.

The contribution of the digital strategy across areas of the green transition:

Table 24: The contribution of the digital strategy across areas of the green transition

Area of the green transition	Contribution of the digital strategy	Related digital projects / solutions
Sustainable mobility and transport	Digitalisation enables real-time information on public transport, parking, road closures, traffic flows, cycling and multimodal journeys. This supports a reduction in private car use and greater use of public transport, walking, cycling and micromobility.	MaaS/multimodal module, smart parking, digital transport service, public transport data, KRskOLESOM, SIPARK, transport dashboards
Energy systems and buildings	Digital tools enable energy consumption monitoring, anomaly detection, optimisation of public buildings, monitoring of renewable energy sources, support for district heating and better planning of energy measures.	Energy monitoring, consumption dashboards, AI analytics, digital twins, data platform
Waste and the circular economy	Digitalisation supports the optimisation of waste collection, bin tracking, online booking of collections, user notifications, data-driven monitoring of waste volumes and the development of circular models.	Smart waste management, digital citizen portal, bin sensors, waste dashboard, the Zarta Centre as a circular economy information hub
Water and municipal services	Digital solutions enable the monitoring of water losses, consumption, anomalies, network pressures, supply disruptions	Digital citizen portal, utility data streams, water sensors, ticketing system, e-notifications



	and improved communication with residents.	
Environmental monitoring	Sensors and a data platform enable the monitoring of air quality, noise, water, microclimate, heat islands and environmental risks. This data supports better spatial planning and climate adaptation.	Environmental and water sensors, UrbanMind, public environmental dashboards, GIS layers, digital twin
Green infrastructure	GIS, digital twins and public space data assist in the planning of green spaces, tree-lined avenues, green roofs, biodiversity hotspots and measures to combat heat islands.	GIS and public maps, digital twins, environmental dashboards, public space data
Local food and short supply chains	Digital tools can connect local producers, public institutions, procurers, markets and consumers, and support the monitoring of the proportion of local food.	Digital platform for local produce, e-food, dynamic digital procurement system, marketplace for local produce
Climate management and KPI monitoring	A digital strategy enables the joint monitoring of targets, indicators, projects, funding, statuses and the impacts of the green transition.	City data platform, dashboards, data catalogue, AI analytics, open data
Citizen engagement	The green transition requires a change in habits. Digital channels can provide citizens with notifications, challenges, information, incentives, opportunities for participation and feedback.	Smart Kranj, digital participation, targeted communications, CeKR benefits, active lifestyle app

Digitalisation as an enabler of the green transition

A digital strategy has three distinct types of impact on the green transition:

1. The first effect is **the direct optimisation of systems**. This means that digital tools directly improve the functioning of urban systems: traffic flows, parking, public transport, energy consumption, street lighting, waste collection, water wastage and municipal services. This is where the link between digitalisation and the green impact is strongest, as better data enables fewer unnecessary journeys, fewer empty runs, fewer losses, lower consumption and better planning.
2. The second effect is **a change in user behaviour**. The green transition is not just a technical project, but also a change in everyday habits. Citizens will make greater use of public transport, cycling, walking, local services or digital processes if these services are simple, reliable and interconnected.



Digital channels can display real-time bus arrivals, available parking spaces, available bikes, the carbon footprint of a journey, waste collection reminders, event notifications and incentives for sustainable choices.

3. The third impact is **managing and demonstrating progress**. Climate neutrality requires continuous monitoring of progress. The City Council needs to know which projects are being implemented, what their impact is, how indicators are changing, which measures are lagging behind, and where investments need to be adjusted. A city data platform, data catalogue, dashboards, open data and AI analytics are therefore essential for managing the green transition, not merely for reporting purposes.

The specific role of the data platform and Smart Kranj

The Climate Neutrality Action Plan explicitly highlights the role of the Smart Kranj platform – or the city's digital data platform – in supporting the planning, implementation and adoption of climate measures by citizens and businesses. The Smart Kranj platform is therefore the central hub linking the digital strategy and the green transition: it connects mobility, energy, the environment, waste, citizen services, CeKR, communication and data management.

For the green transition, it is important that Smart Kranj functions not only as a user application but also as a data and management infrastructure. This means that it must support:

- the collection and integration of data from various systems,
- monitoring of green KPIs,
- real-time communication with citizens,
- displaying project progress,
- integration with GIS and the digital twin,
- integration of IoT data,
- preparation of public and internal dashboards,
- support for decision-making by MOK management.

3.6.3 Horizontal Link 3: Change Management in the MOK's Digital Transformation

Change management represents one of the key horizontal links in the digital strategy of the City of Kranj. Its role is to ensure that digital transformation is not viewed merely as the introduction of new technologies, but as a coordinated process of organisational, process, data and user changes.



Change management therefore primarily links:

- the strategic objectives of digital transformation,
- the needs of various user groups and stakeholders,
- planning of priorities and implementation activities,
- communication within and outside the municipality,
- training for target groups,
- monitoring the effects and the level of acceptance of the changes.

3.6.3.1 Approach to change management

An agile approach to change management was used as the central framework in the preparation of the MOK digital strategy. This enables the gradual development of the strategy's content, the ongoing involvement of stakeholders and the adaptation of activities based on feedback received.

	Traditional Approach to Change Management	Hybrid Approach to Change Management	Agile Approach to Change Management
1. Project Framing	Detailed project plan developed by the PMO with input from business users	Detailed project plan developed with input from business leadership	Change driver, vision and short-term backlog developed with input from end users
2. Change Impact Assessment (CIA)	CIA prepared in PowerPoint or Excel	CIA with greater emphasis on affected end users and organisational leaders	Fit-for-purpose CIA guides role-based roadmaps and day-in-the-life stories
3. Stakeholder Engagement	Change Champion Programme used to cascade messages to end users	Involvement of Change Champions to share messages and collect feedback	Role-based engagement strengthens the "What's in it for me?" perspective and provides segmented feedback
4. Communication	Mainly email and newsletters	Multi-channel approach	Multi-channel approach with skimmable and user-validated messages
5. Training	Train-the-trainer (TTT) and instructor-led training (ILT)	Role-based TTT and ILT with selected training videos	Experiential training, including in-tool guidance and gamification, combined with role-based ILT
6. Change Measurement and Adoption	Surveys and readiness assessments	Surveys and feedback forums included in key engagement sessions	Digital dashboards with KPIs, supported by gamification and continuous monitoring

Figure 15: Approach to change management

The agile approach is particularly suitable as it supports:

- the development of a vision and a short-term backlog based on user needs,
- a targeted assessment of the impact of changes on roles and day-to-day processes,
- the involvement of stakeholders according to their specific needs,
- multi-channel communication with the ability to respond quickly,
- hands-on training tailored to users' roles,
- monitoring progress using KPIs and regular feedback.

At the same time, elements of the traditional and hybrid approaches are retained where appropriate, particularly in structuring the project plan, formalising indicators, planning communication and preparing training sessions.



3.6.3.2 From trigger to operationalisation

Change management is based on a clear link between the trigger for digital transformation, the shared vision and the implementation backlog. In this way, strategic directions are gradually translated into specific tasks, projects, priorities and measurable outcomes.

The key elements of this approach are:

- A catalyst stemming from the needs of citizens, city leadership, the administration, public enterprises, the business sector and tourists.
- A vision that defines the direction of digital transformation, related digital services, data-driven decision-making and a user-friendly city.
- A backlog that translates the vision into a project plan, priorities, a timeline, KPIs and a monitoring system.

This approach ensures that the digital strategy is not merely a strategic document, but an implementation framework for the gradual operationalisation of changes.

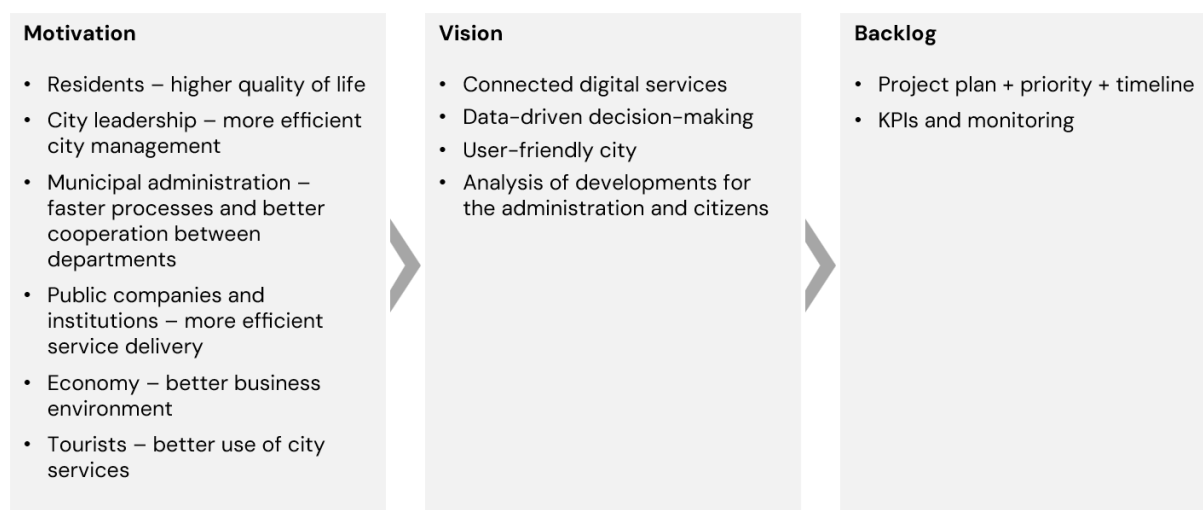


Figure 16: Approach to change management

3.6.3.4 Monitoring the effects and KPIs

Monitoring the impact of the digital strategy will be based on key performance indicators. KPIs will be formulated as part of the implementation plan and linked to individual strategic projects or priority activities.

For each indicator, the following will need to be defined:

- the baseline,
- target value,
- current value,



- the method of verification or measurement.

This will enable systematic monitoring of progress, assessment of the impact of digital solutions, and timely adjustment of implementation activities. KPIs will be an important tool for management, project teams and other stakeholders involved.

3.6.3.5 The role of the change manager

The change leader plays a central coordinating role between users, management and the implementation team. The role of the change manager is to maintain a shared vision, gather feedback, remove obstacles, align priorities and support decision-making. In doing so, they ensure that the digital strategy is developed and implemented in line with users' needs and the municipality's strategic objectives.

Their responsibilities include:

- Developing, maintaining and communicating the vision of the change management team
- Participating in agile team ceremonies (stand-ups, retrospectives, etc.)
- Providing the team with regular and frequent feedback on ongoing work, priorities and key deliverables



Figure 17: The role of the change management lead

3.6.3.6 Approach to target groups

Change management must be tailored to different target groups, as their needs, expectations and levels of engagement vary. It is therefore necessary to define an engagement objective and an appropriate approach for each group.

The basic approach by target group is as follows:

- General public: providing information on the benefits of digital initiatives, progress made and opportunities for participation.
- Municipal staff: clearly defining roles, responsibilities, priorities and the necessary skills.
- Public sector: strengthening cooperation, interoperability, data sharing and the joint development of solutions.



- Private sector: involving businesses as partners, data users and co-creators of digital solutions.

This segmentation enables more targeted communication, more effective engagement and greater acceptance of digital change.

	Residents	Municipal Employees	Ecosystem – Public Sector	Ecosystem – Private Sector
Objective	Citizens care about quality of life. They want to be informed about city strategy and activities in the field of digitalization.	Equip employees to implement the digital strategy with clear priorities, responsibilities, skills and as little organisational friction as possible.	Strengthen cooperation between the city, public institutions and other public actors, and encourage interoperability, data sharing and joint development of solutions.	Involve companies as partners and users of the city's digital development, and create a more predictable, efficient and innovation-friendly business environment.
Approach	Inform Regularly communicate the benefits of digital initiatives, publish progress, enable citizen participation, and regularly share results and impacts.	Commit Establish clear roles, change management, training, internal communication and implementation monitoring.	Encourage Encourage sharing, interaction and cooperation, for example by sharing workflows, data and good practices.	Activate Involve companies in co-creating solutions, remove key frictions in doing business with the city, open data and create opportunities for piloting and partnerships.

Figure 18: Approach to target groups

3.6.3.7 Communication in the implementation of the digital strategy

Communication is one of the most important elements of change management, as it enables timely information sharing, the coordination of activities, the involvement of stakeholders and the reduction of resistance to change. When implementing a digital strategy, a distinction must be made between internal communication within the city administration and related units, and communication with key external stakeholders.

Internal communication supports project implementation, coordination between departments, document sharing, task tracking and the rapid resolution of outstanding issues. Tools and channels such as SharePoint, Microsoft Teams, regular coordination meetings and email reminders are used for this purpose. The aim of internal communication is to ensure that everyone involved has timely information on progress, tasks, deadlines, changes and responsibilities.



Communication	Communication Method	Objectives	Frequency
SharePoint	Document sharing, shared folders, comments	Central storage of materials, access to up-to-date documents, change tracking	Ongoing
Microsoft Teams	Chat, calls, video calls, file sharing	Fast operational coordination, ongoing information exchange, resolving open issues	Monthly / as needed
Regular coordination meetings	In-person or remote meetings	Progress review, coordination of activities, defining next steps	Weekly or every two weeks
Email reminders	Email notifications and reminders	Reminders about deadlines, tasks, events and important activities	As needed / at key deadlines

Figure 19: Internal communication in the implementation of a digital strategy

Communication with key stakeholders must be broader in scope and tailored to different audiences. In this regard, it makes sense to utilise existing municipal communication channels, such as Smart Kranj, Kr povej, CeKR, the MOK website, physical information points, workshops, public presentations, local media, surveys and social media posts.

The purpose of external communication is to inform citizens and other stakeholders about digital services, new developments, development activities, opportunities for participation and the results achieved. Communication must be regular, understandable and focused on concrete benefits for users. Particular emphasis must also be placed on gathering feedback, as this enables solutions to be improved and the digital strategy to be better tailored to users' actual needs.

Communication	Communication Method	Objectives	Frequency
Smart Kranj	Digital platform, web content, posts	Informing citizens about digital services, updates and the city's development activities	Ongoing / when updates are available
Krpovej	Digital channel for reports and user feedback	Collecting citizens' initiatives, problem reports and suggestions, and responding to them	Ongoing / as needed
CeKR	Application, digital notifications, user content	Informing users about services, benefits and new usage options	Ongoing / when new functionalities are introduced
MOK Website	Web posts, news, subpages	Formal and public communication about projects, measures, events and progress	When updates are available
Information points, Billboards	Physical information points, posters, outdoor advertising	Informing the wider public, including less digitally active groups, about key initiatives and events	During campaigns / as needed
Workshops and public presentations	Live events, presentations, consultations	Involving citizens and stakeholders, presenting measures, collecting feedback and suggestions	At key phases / quarterly
Local media	Press releases, interviews, media posts	Informing the wider public, strengthening the visibility of projects and city activities	At major milestones / as needed
Citizen feedback surveys	Online surveys, questionnaires, public consultations	Collecting opinions, needs and user satisfaction, and supporting decision-making	As needed / at least annually
Social media posts	Posts, stories, graphics, video content	Reaching the wider public, promoting activities, increasing citizen engagement and response	Monthly / during campaigns

Figure 20: External communication in the implementation of a digital strategy

Training

Plan for acquiring knowledge and competencies for business functions in the field of digitalisation:



Table 55: Plan for acquiring knowledge and competencies for business functions in the field of digitalisation

Competence / group	Management	MOK departments	Inter-municipal bodies	Institutions	Citizens / Local Communities	Innovation ecosystem
Digital and data literacy						
Basic IT literacy	✓	✓	✓	✓	✓	✓
Browsing, searching for and selecting data, information and digital content	✓	✓	✓	✓	✓	✓
Evaluation of data, information and digital content	✓	✓	✓	✓	✓	✓
Understanding data quality, errors and limitations	✓	✓	✓	✓		✓
Management of data, information and digital content	✓	✓	✓	✓		✓
Management of metadata, data ownership and data catalogues	✓	✓	✓			✓
Understanding open data and the public interest	✓	✓	✓	✓	✓	✓
Communication and collaboration						
Communication using digital technologies	✓	✓	✓	✓	✓	✓
Sharing information via secure digital channels	✓	✓	✓	✓	✓	✓
Collaboration using digital platforms	✓	✓	✓	✓	✓	✓



Online etiquette and responsible digital communication	✓	✓	✓	✓	✓	✓
Digital identity and access rights management	✓	✓	✓	✓	✓	✓
Engaging citizens via digital channels	✓	✓	✓	✓	✓	✓
Digital participation, consultations and the collection of proposals	✓	✓		✓	✓	✓
Digital services and content						
Development and management of digital services for citizens	✓	✓	✓	✓		✓
Embedding and reproducing digital content	✓	✓	✓	✓	✓	✓
Copyright, licences and the use of digital content	✓	✓	✓	✓	✓	✓
Accessibility of digital services for different user groups	✓	✓	✓	✓	✓	✓
User experience of municipal apps and portals	✓	✓		✓	✓	✓
IoT, sensors and smart infrastructure						
Understanding IoT assets in the city	✓	✓	✓	✓		✓
Register of IoT assets,	✓	✓	✓	✓		✓



applications, owners and operators						
Sensor and device lifecycle management		✓	✓	✓		✓
Calibration, maintenance and reliability testing of sensors		✓	✓			✓
Management of data from radars, meters, charging points, AVL and environmental sensors	✓	✓	✓			✓
Understanding real-time data and time series		✓	✓			✓
Smart street lighting management	✓	✓		✓		✓
Smart parking and traffic data management	✓	✓	✓		✓	✓
Management of sensors for the environment, energy and municipal infrastructure	✓	✓	✓	✓		✓
GIS, spatial data and digital twins						
Use of GIS tools, PISO, GIS Igea and spatial data	✓	✓	✓	✓		✓
Data-driven spatial planning	✓	✓	✓		✓	✓
Linking IoT data with locations and spatial layers	✓	✓	✓			✓
Understanding the concept of	✓	✓	✓			✓



a digital twin of a city						
Using the digital twin for transport, energy, the environment and spatial planning	✓	✓	✓			✓
Data platforms and interoperability						
Understanding the city data platform	✓	✓	✓	✓		✓
Integrating various applications and data sources	✓	✓	✓	✓		✓
APIs, integrations and data exchange between systems		✓	✓			✓
Interoperability standards and reducing vendor lock-in	✓	✓	✓			✓
Management of dashboards, metrics and reports	✓	✓	✓	✓		✓
Setting city KPIs for mobility, the environment, energy and services	✓	✓	✓	✓	✓	✓
Artificial Intelligence and Advanced Analytics						
Basic AI literacy	✓	✓	✓	✓	✓	✓
Identifying meaningful applications of AI in the city	✓	✓	✓	✓	✓	✓
The use of generative AI in public administration	✓	✓	✓	✓		✓



The safe use of AI in communicating with citizens	✓	✓	✓	✓	✓	✓
Understanding the limitations of AI, hallucinations, bias and accountability	✓	✓	✓	✓	✓	✓
Responsible AI, ethics, transparency and explainability	✓	✓	✓	✓	✓	✓
The use of AI for transport, environmental and energy forecasts	✓	✓	✓			✓
Using AI to improve public services and support decision-making	✓	✓	✓	✓	✓	✓
Machine learning, MLOps and model monitoring						✓
Risk management in automated decision-making	✓	✓	✓	✓	✓	✓
5G, connectivity and edge computing						
Understanding the role of 5G in the smart city	✓	✓	✓			✓
Understanding IoT connectivity: 5G, LoRaWAN, NB-IoT, Wi-Fi, fibre optics	✓	✓	✓			✓



Using edge computing for sensor data		✓				✓
Planning connectivity for critical infrastructure	✓	✓	✓			✓
Security of communications networks and devices	✓	✓	✓			✓
Cyber security, privacy and compliance						
Device security		✓	✓	✓	✓	✓
Protection of personal data and privacy	✓	✓	✓	✓	✓	✓
GDPR, DPIA and privacy by design	✓	✓	✓	✓		✓
Cyber security of information systems	✓	✓	✓	✓		✓
Cybersecurity for IoT and operational technologies	✓	✓	✓			✓
Incident management and crisis response	✓	✓	✓	✓	✓	
Access, role and audit trail management	✓	✓	✓	✓		✓
Public procurement, contracts and supplier management						
Preparing requirements for digital, IoT and AI solutions	✓	✓	✓	✓		✓
Management of SLAs, maintenance and provider responsibilities	✓	✓	✓	✓		
Requirements for data portability and avoiding vendor lock-in	✓	✓	✓	✓		✓



Contractual arrangements governing the municipality's access to data	✓	✓	✓	✓		✓
Innovative public procurement	✓	✓		✓		✓
Innovation, deep tech and the urban ecosystem						
Identifying technological trends for the city	✓	✓	✓	✓		✓
Deep tech understanding: AI, sensor technology, robotics, edge computing, digital twins	✓	✓				✓
Setting up urban pilot projects and test environments	✓	✓	✓	✓	✓	✓
The living lab approach and co-creation with users	✓	✓		✓	✓	✓
Collaboration with universities, start-ups and businesses	✓	✓	✓	✓		✓
Applications for EU and development projects	✓	✓		✓		✓
Measuring the impact of pilot schemes and deciding on the roll-out of solutions	✓	✓	✓	✓	✓	✓
Sustainability, resilience and inclusion						
Protecting health and wellbeing	✓	✓	✓	✓	✓	✓



Environmental protection and the use of environmental data	✓	✓	✓	✓	✓	✓
Energy efficiency and energy consumption data	✓	✓		✓	✓	✓
Data-driven mobility management	✓	✓	✓		✓	✓
Identifying digital divides	✓	✓	✓	✓	✓	✓
Inclusion of vulnerable groups in digital services	✓	✓	✓	✓	✓	✓
The city's resilience to crises, disruptions and extreme events	✓	✓	✓	✓	✓	✓

Training plan

The training plan provides for the delivery of at least the following training courses:

1. Basic digital literacy for employees of Kranj City Council, its institutions and public services
2. Secure use of digital identities, passwords, access rights and work devices
3. Information and cyber security in the municipal administration and public institutions
4. Personal data protection, the GDPR and privacy in digital services for citizens
5. Use of the Igea GIS, PISO and spatial data in the work of municipal departments
6. Management of city data, data sources and data custodians
7. Inventory and management of IoT assets in Kranj
8. Basics of sensor technology, smart devices and real-time data
9. Management of data from traffic, car parks, speed cameras, meters and public transport



10. Management of environmental, energy and utility data
11. Using city dashboards, indicators and reports for decision-making
12. City data platform, interoperability and application integration
13. Fundamentals of artificial intelligence for public administration and city services
14. Safe and responsible use of generative artificial intelligence in employees' work
15. Using AI for analytics in transport, the environment, energy and public services
16. The city's digital twin and its application in planning, transport, energy and the environment
17. 5G, fibre optics, IoT connectivity and edge computing in the smart city
18. Digital citizen participation and the involvement of local communities
19. Accessibility of digital services and bridging the digital divide
20. Management of suppliers, contracts, SLAs and requirements for digital solutions
21. Public procurement for IoT, AI, data platforms and smart infrastructure
22. Open data, transparency and the use of data for innovation
23. The living lab approach, pilot projects and collaboration with the innovation ecosystem
24. Crisis management, resilience of digital systems and incident response



Appendix 1: Overview of the existing strategy, KPIs and projects

In drawing up the digital strategy, we are building on the fact that the City of Kranj is not starting from scratch in the field of digitalisation, but already has a range of strategic directions, development initiatives, projects and digital solutions in place, which provide an important foundation for further development. The 'as-is' analysis therefore begins with a review of the existing strategy, KPIs and projects, as this enables us to build the new strategy on the basis of already identified development priorities, past experience and existing digital capabilities.

1.1 Development opportunities for the city's digital development

In reviewing existing strategic areas, we have identified that the Municipality of Kranj (MOK) already has a number of development opportunities that are directly or indirectly linked to the city's digital transformation. These opportunities stem both from the need for more efficient city management and from broader development ambitions in the fields of the economy, mobility, the environment and social inclusion. The digital strategy is therefore being developed as a tool with which we can further support, link and build upon existing development priorities.

Area	Description	Relev. (1–5)	Justification
City Management	Organisational, information and cost optimisation of public service operations	5	This is one of the areas where the digital strategy most directly affects results.
Economy, Technology and Knowledge	Accelerated digitalisation and introduction of pilot artificial intelligence solutions in city services	5	This is the direct core of the digital strategy.
City Management	Involving citizens in the functioning and life of the city – network of partner cities	4	Digital tools are an important channel for participation, cooperation and networking.
City Management	Changing the operating model – MOK as an initiator	4	Digital transformation can significantly support the transition towards more proactive and coordinated management.
City Management	Use of resources and knowledge from the Mission of 100 Climate-Neutral Cities	4	Implementing the mission requires high-quality data management, indicator monitoring and digital coordination.
Economy, Technology and Knowledge	Attracting promising start-ups and individuals to Kranj	4	A high-quality digital environment has an important impact on the decisions of companies and talent.
Economy, Technology and Knowledge	Accelerating the implementation of circular economy concepts in practice	4	Circular models often require traceability, data support and digital coordination
Environment and Spatial Planning	Integrated transport policy and modern concepts of sustainable mobility	4	Smart mobility is strongly based on data, analytics and digital system management.
Environment and Spatial Planning	Mission of 100 Climate-Neutral Cities	4	Achieving the mission's objectives requires data-based monitoring, analytics and digital coordination.
Environment and Spatial Planning	Efficient and sustainable management of natural resources, land, green and blue infrastructure	4	Resource management is strongly supported by monitoring, spatial data and digital decision-making.
Residents and Social Inclusion	Strengthening civil society	4	Digital platforms can significantly strengthen community inclusion, connection and self-organisation.
City Management	Positioning Kranj as an Ideal Environment for Living and Doing Business between Ljubljana, the Alps and the Airport	3	The digital strategy can support the city's promotion and user experience, but it is not the main factor in positioning.

Figure 21: Development opportunities within existing strategic areas

Among the most significant opportunities, we identify the optimisation of public service operations, as well as the accelerated digitalisation and introduction of pilot artificial intelligence solutions into municipal services. In these areas, the digital strategy can directly contribute to more efficient system operations, better data management and the development of new digital services.

Significant opportunities also lie in involving citizens in the city's operations, transitioning to more proactive management, and utilising resources and expertise



within the framework of the Mission 100 Climate-Neutral Cities initiative. In this regard, the digital strategy supports better monitoring of indicators, data-driven decision-making and more effective coordination among stakeholders.

At the same time, digital development supports the city's broader objectives in the areas of the economy, sustainable mobility, natural resource management and social inclusion. In this way, the digital strategy acts as an important enabling framework for realising the broader development ambitions of the City of Kranj.

1.2 Challenges

We have also included an identification of key development challenges in our review of the urban environment, as these significantly shape the broader context for the preparation of the City of Kranj's digital strategy. These challenges are not limited solely to the field of digitalisation, but reflect broader developmental, spatial, economic, social and environmental conditions that influence the city's future development. They are important for the preparation of the digital strategy because they indicate the areas in which digital solutions can contribute to more efficient management, better decision-making, greater stakeholder engagement and higher-quality services for residents and other users of the city.

Among the identified challenges, the following stand out: the city's image and developmental dynamism; cooperation and competencies at all levels; Kranj's regional role; the coexistence of the city and the countryside; and the development of jobs, the workforce, businesses and innovation. Also significant are the challenges relating to the concentration of ICT and technology companies, young people and young families, the ageing of the community, the transport system and infrastructure, the management of natural resources, climate change and the city's decarbonisation, spatial policy, the revitalisation of Old Kranj, changing lifestyles, cooperation with Ljubljana and European urban centres, and financially sustainable management.

The following section provides an overview of the key development challenges, which form an important framework for the preparation of the MOK's digital strategy.

- Challenge 1: The city's image and developmental momentum
- Challenge 2: Collaboration and expertise at all levels
- Challenge 3: Kranj's regional role
- Challenge 4: The coexistence of urban and rural areas



- Challenge 5: Jobs, workforce, business growth and innovation
- Challenge 6: Concentration of ICT and technology companies
- Challenge 7: Young people and young families
- Challenge 8: An ageing community
- Challenge 9: Transport system and infrastructure
- Challenge 10: Management of natural resources
- Challenge 11: Climate change and the city's decarbonisation
- Challenge 12: Spatial policy
- Challenge 13: Revitalisation of Old Kranj
- Challenge 14: Lifestyle Changes
- Challenge 15: Cooperation with Ljubljana and European urban centres
- Challenge 16: Financially sustainable management

1.3 Risks

Alongside development opportunities, we also recognise several risks that underscore the need for systematic and long-term digital development in the City of Kranj. These risks stem both from the wider development environment and from internal constraints that may affect the successful implementation of the strategy.

Among the key risks, the inability to keep pace with technological progress stands out, as this could reduce the city's competitive edge in terms of development and limit the scope for the effective introduction of modern digital solutions. Also significant are the risks associated with pressure on current expenditure and budget revenue, the failure to implement the strategy due to adjustments made to suit the leadership of the moment, and staffing challenges in the economy and public services.

The table below presents the key risks and their level of relevance:

Table 26: Key risks and their level of relevance

Area	Description	Relevance (1–5)	Justification
Economy, technology and knowledge	Inability to Keep Pace with Technological Progress	5	The digital strategy is a direct response to this risk.
City management	Continued Pressure on Current Expenditure – Declining Budget Revenues	3	Digitalisation can contribute to greater efficiency, but it does not in itself resolve fiscal pressures.



City Management	Failure to Implement the Strategy: Adapting to Each Successive Mok Leadership	3	Digital tools for monitoring implementation help, but cannot replace political commitment.
City Management	Growth in the Attractiveness and Range of Services Offered by Ljubljana and Surrounding Municipalities	3	Digitally enhanced services can boost Kranj's competitiveness, but they are not the only decisive factor.
Economy, technology and knowledge	Recruiting New Staff and Replacing Retiring Staff	3	Digitalisation can enhance the attractiveness of the working environment and improve efficiency, but it does not, on its own, solve the issue of the labour pool.
Environment and space	Increased Severity of the Impact of Climate Change (Flood-Prone Areas in Kranj Along Watercourses, Heat Islands...)	3	Digital systems can play a significant role in monitoring and adaptation, but they cannot replace physical measures.
Population and social inclusion	Recruiting New Staff and Replacing Retiring Staff in the Public Sector	3	Digitalisation can alleviate staffing pressures and make the work more attractive, but it does not solve the problem entirely.
City management	Widening Inequalities Between Urban and Rural Areas	2	Digital services can partially improve accessibility, but they do not eliminate the underlying development disparities.
Urban management	The Appropriateness of the Strategy's Financial Assumptions	2	Digital tools can improve planning, but they cannot guarantee the feasibility of the financial assumptions.
Economy, Technology and Knowledge	Lengthy Spatial Planning Processes	2	Digital tools can support processes, but they do not eliminate regulatory and procedural complexities.
Economy, technology and knowledge	New Global Economic Models	2	A digital strategy can improve flexibility, but it cannot significantly influence broader macroeconomic trends.
Environment and Space	Pressure on the Cultural Landscape and the Disappearance of the Traditional Image	2	Digital tools can help with recording and monitoring, but do not significantly help to prevent pressure.
Population and social inclusion	Ageing Population	2	Digital solutions are only a partial response to a broader demographic trend.
Population and social inclusion	A Fall in Living Standards – Rising Social Hardship	2	Digital tools can help to target assistance, but they do not significantly address the root causes.



City Management	Lack of State Support and Cooperation	1	This risk is primarily institutional in nature and is only minimally addressed by the digital strategy.
Economy, Technology and Knowledge	Predominantly Private and Highly Fragmented Ownership in Duo and Old Kranj	1	This is primarily a question of ownership and location, with very limited digital connectivity.
Economy, technology and knowledge	An unstable global economic, political and security environment	1	This risk is external and is mitigated only to a very limited extent by the digital strategy.
Environment and Space	Unwillingness of Land and Property Owners to Sell or Grant Easements	1	This is a legal and ownership issue on which the digital strategy has a negligible impact.
Environment and Spatial Planning	Deadlines for the Construction of Sewerage Networks in Agglomerations with >2,000 PE	1	This is primarily an infrastructure and implementation challenge, not a digital one.
Population and social inclusion	Inadequate or Slow Adaptation of the Legislative Framework (Integration of Foreign Nationals, Municipal Funding, Spatial Planning Interventions, etc.)	1	This risk is regulatory in nature and has a very weak link to the digital strategy.

1.4 Operational objectives

A review of the operational objectives shows that digital development is significantly embedded within the broader development priorities of the City of Kranj. The digital strategy is not a separate area in this context, but rather a strategic support framework that underpins the achievement of objectives in the following areas:

- smart city
- mobility
- energy
- tourism
- social services
- security

The table below shows some of the most important objectives from the TUS+ and their relevance to the preparation of the City of Kranj's digital strategy:

Table 27: Operational objectives and their relevance to the TUS+ objectives

Thematic area	Operational objective	Relevance (1–5)	Justification
---------------	-----------------------	-----------------	---------------



TP1 Kranj, an innovative smart city	1.4 To become a benchmark city for the implementation of smart city solutions	5	The digital strategy is central to the achievement of this objective.
TP1 Kranj, an innovative smart city	1.2 Systematically nurturing talent and building an innovation-friendly environment	4	Digital platforms and ecosystems play a key role in supporting the development of talent and innovation.
TP2 Kranj, a sustainable, mobile and connected city	2.3 Establish a multimodal passenger hub and a system of mobility services	4	The digital integration of services is key to the effective functioning of multimodality.
TP3 Kranj, a green city	3.2 Reduce energy consumption in public buildings	4	Digital monitoring and energy management are key to achieving this objective.
TP5 Kranj, a vibrant and active city	5.1 Improve the city's position as a tourist destination and raise its profile	4	Digital marketing and platforms are key to modern tourism visibility.
TP6 Kranj, a healthy and safe city	6.2 Developing new services for older people and vulnerable groups	4	Digital services (e.g. telecare) can significantly improve care provision.
TP6 Kranj, a healthy and safe city	6.4 Strengthen the preparedness of civil protection units	4	Digital systems for coordination and response are key to effectiveness.
TP1 Kranj, an innovative smart city	1.1 Enhance Kranj's appeal as a business location	3	A digital presence and digital services enhance attractiveness, but they are not the only decisive factor.
TP1 Kranj, an innovative smart city	1.3 Promoting food self-sufficiency, the circular economy and social entrepreneurship	3	Digital tools enable better coordination and traceability, but they are not the primary driver.
TP1 Kranj, an innovative smart city	1.5 Increasing added value	3	Digitalisation can improve productivity, but it also depends on the wider economy.
TP2 Kranj, a sustainable, mobile and connected city	2.1 Reducing car use for short journeys	3	Digital solutions can influence behaviour, but infrastructure changes are key.
TP2 Kranj, a sustainable, mobile and connected city	2.4 Improve traffic flow on the ring road and city access roads	3	Traffic data and optimisation can help, but infrastructure remains key.
TP2 Kranj, a sustainable, mobile and	2.5 Improve the safety of the local road network	3	Digital systems can support safety, but physical measures are also crucial.



connected city			
TP3 Kranj, a green city	3.3 Increasing the energy independence of the City of Kranj	3	Digital systems support management, but the core lies in investment.
TP3 Kranj, a green city	3.4 Reducing the volume of municipal waste	3	Digital traceability and optimisation can contribute to better management.
TP4 Kranj, a city for young people	4.3 Encourage the education system to be more open to local initiatives	3	Digital platforms can significantly facilitate the networking of stakeholders.
TP4 Kranj, a city for young people	4.4 Securing the workforce and skills for the future	3	Digitalisation supports the development of skills, but does not solve the problems of the entire system.
TP5 Kranj, a vibrant and active city	5.2 Strengthening Kranj's role as a sporting and cultural centre	3	Digital tools support promotion and management, but they are not a key factor.
TP5 Kranj, a vibrant and active city	5.3 Increasing visitor numbers and the appeal of Old Kranj	3	Digital experiences can boost visitor numbers, but the physical offering is key.
TP6 Kranj, a healthy and safe city	6.3 Improving living conditions in urban neighbourhoods	3	Digital solutions can improve management, but they cannot replace urban planning.

1.5 Measures

A review of the measures further confirms that digital development is an integral part of the wider development strategies of the City of Kranj. Among the most relevant measures, those relating to digital platforms, data infrastructure, sustainable mobility, environmental monitoring, lifelong learning, tourism and digitally supported services in the fields of security and public services stand out in particular.

The table below provides an overview of measures from existing strategic documents and their relevance to the preparation of the City of Kranj's digital strategy.

Table 28: Overview of measures from existing strategic frameworks

TP	Measure	2030	2035	Relevance (1–5)	Justification
TP1 Kranj, an innovative smart city	Smart Kranj	Digital platform	Data infrastructure	5	This involves the direct implementation of the digital strategy and data space.
TP1 Kranj, an innovative smart city	Talent, innovation, entrepreneurship	TIP Platform	Innovation Centre	4	Digital platforms and innovation ecosystems are key to talent development.



TP1 Kranj, an innovative smart city	Sustainable, social and circular economy	Economic symbioses	Circular use of natural resources	4	Circular models require data support and digital coordination of flows.
TP2 Kranj, a sustainable, mobile and connected city	Sustainable multimodal transport system	E-charging hub	Central passenger hub	4	The digital integration of mobility services is key to an efficient system.
TP3 Kranj, a green city	Energy efficiency	District heating systems	Use of industrial heat	4	Digital energy management systems are key to optimisation.
TP3 Kranj, a green city	Climate-resilient management	Green OPN	Environmental monitoring	4	Digital monitoring and modelling are key to managing climate risks.
TP4 Kranj, a city for young people	Lifelong learning	Lifelong Learning Network	Intergenerational programmes	4	Digital platforms significantly increase access to education.
TP5 Kranj, a vibrant and active city	Tourist destination	Experiences	Tourism accelerator	4	Digital platforms are key to the development of tourism.
TP6 Kranj, a healthy and safe city	Elderly	Care home	Supported housing	4	Digital solutions (telecare) significantly improve care provision.
TP6 Kranj, a healthy and safe city	Safety	GARS bus shelter	Regional Centre	4	Digital crisis management systems are key to an effective response.
TP1 Kranj, an innovative smart city	Kranj business location	PC Hrastje	Revitalisation of Primskovo	3	Digital infrastructure supports the location's appeal, but physical development is also crucial.
TP2 Kranj, a sustainable, mobile and connected city	A new culture of mobility	Car-free KR – pilot	Car-free KR – expansion	3	Digital campaigns and apps can influence behaviour, but they are not crucial.
TP3 Kranj, a green city	Zero-waste municipality	ZARTA Centre, transfer station	—	3	Digital systems can optimise waste management and logistics.
TP4 Kranj, a city for young people	Staff and careers	Careers at MOK	Careers in Kranj	3	Digital platforms can improve staff development and management.
TP4 Kranj, a city for	Youth policy	Youth Centre	—	3	Digital channels support the inclusion of young people.



young people					
TP5 Kranj, a vibrant and active city	Cultural creativity	Cultural capital	Cultural infrastructure	3	Digital promotion and content increase reach and impact.
TP5 Kranj, a vibrant and active city	Old Kranj	City Market	Cultural Quarter 2.0	3	Digital marketing and spatial management support revitalisation.
TP6 Kranj, a healthy and safe city	Healthcare	Health Centre	Regional hospital	3	Digital healthcare can improve services, but it is not the main factor.
TP6 Kranj, a healthy and safe city	Social activation	Housing units	Housing units	3	Digital tools can support management and inclusion.

1.6 KPIs

A review of existing KPIs shows that digital aspects are already clearly recognised in the City of Kranj's existing development guidelines. Among the most relevant indicators, the following stand out in particular: city card users, broadband access, digitised transport systems, and the availability and age of ICT equipment, as these directly reflect the level of digital infrastructure, the use of digital services and the city's level of digital readiness.

Indicators relating to mobility, energy, tourism and social services are also important, such as CO₂ emissions, traffic congestion on access roads, public transport users, energy consumption, overnight stays and home care. These indicators confirm that digital development is not limited solely to information infrastructure, but also significantly supports the city's broader objectives in the areas of sustainable development, service quality and management efficiency.

The existing KPIs thus represent an important starting point for the further development of a measurable framework for the digital strategy. An overview of the existing KPIs and their relevance to the preparation of the City of Kranj's digital strategy is shown below.



Thematic Area	KPI	Relev. (1–5)	Justification
TP1 Kranj, Innovative Smart City	K1.3 City Card Users	5	This is a direct digital product and an indicator of digital inclusion.
TP1 Kranj, Innovative Smart City	K1.8 Broadband Access	5	A key foundation of the digital strategy and all digital services.
TP2 Kranj, Sustainably Mobile and Connected City	K2.10 Digitalised Traffic Systems	5	A direct result of the digital strategy.
TP4 Kranj, City of Young People	K4.5 ICT Accessibility	5	A key indicator of the system's digital readiness.
TP4 Kranj, City of Young People	K4.6 Age of ICT Equipment	5	Directly measures digital infrastructure.
TP1 Kranj, Innovative Smart City	K1.2 Added Value per Employee	4	Process digitalisation and AI directly influence productivity.
TP2 Kranj, Sustainably Mobile and Connected City	K2.1 CO2 Emissions	4	Digital systems enable mobility optimisation and emissions monitoring.
TP2 Kranj, Sustainably Mobile and Connected City	K2.3 Pressure on Main Access Roads	4	Traffic analytics and traffic management are strongly supported by digital solutions.
TP2 Kranj, Sustainably Mobile and Connected City	K2.4 Public Transport Users	4	Digital services, such as apps and MaaS, significantly influence usage.
TP3 Kranj, Green City	K3.1 Energy Consumption	4	Digital energy management systems directly influence consumption.
TP3 Kranj, Green City	K3.2 CO2 Emissions	4	Digital monitoring and optimisation are key to reducing emissions.
TP4 Kranj, City of Young People	K4.8 Lifelong Learning	4	Digital platforms significantly increase accessibility.
TP5 Kranj, Vibrant and Active City	K5.1 Overnight Stays	4	Digital marketing and platforms strongly influence tourist visits.
TP6 Kranj, Healthy and Safe City	K6.6 Home Assistance	4	Digital solutions, such as telecare, significantly improve services.

Figure 22: Existing KPIs and their relevance to the development of the City of Kranj's digital strategy

1.7 Existing projects and digital solutions of the City of Kranj

A review of existing projects and digital solutions has shown that the City of Kranj has already established a relatively broad range of digital services, platforms and data-driven solutions over the past period, which represent an important starting point for the development of a new digital strategy. These are projects and solutions that address both the municipality's internal operations and services for citizens, visitors and other users of the urban environment.

At the same time, the current situation also highlights the need for further integration, upgrading and strategic harmonisation of these solutions. A particularly important development priority is the planned establishment of a unified digital platform or data lake, and an assessment of the transition from the existing on-premises infrastructure to cloud-based management of the digital infrastructure. One of the most important tasks of the new digital strategy will be to link existing projects and solutions into a more integrated, interoperable and long-term sustainable digital framework.

Below is an overview of the key existing projects and digital solutions that form the basis for the further digital development of the City of Kranj:

- Knowledge Action Project
- Smart Mlaka
- CeKr



- Smart Kranj
- GIS system for infrastructure records and land use with an integrated spatial data platform
- KrSkolesom
- Road Closures Portal
- Speed cameras
- Parkmewise
- Environmental atlas
- Traffic conditions (via the control centre)
- Monitoring of water and energy supply parameters
- Monitoring visitor numbers in the city centre
- Data on commercial property supply
- Car park locations and prices
- Visit Kranj (cultural and tourist information)
- Accommodation and bookings
- AR Kranj (virtual reality tours of attractions)
- Energy and water consumption reports, alerts (solutions provided by public utilities and concessionaires for communicating with users)
- Municipal Eye
- iKranj



2 Overview of the urban environment

2.1 Analysis of company size in the region

We have also included a basic analysis of the economic structure in the region in this overview of the urban environment, as this provides an important framework for understanding the development potential of the City of Kranj and the wider environment in which the digital strategy will be implemented. The size structure of enterprises is important in this context in terms of their capacity to adopt digital solutions, their readiness to participate in development partnerships, and their potential to introduce more advanced digital services and data-driven business models.

Analyses have shown that, compared with other municipalities in the region, Kranj stands out in terms of the number of enterprises across all size categories, with micro-enterprises predominating, whilst the town also has a significant proportion of small, medium and large enterprises. In Kranj, micro, small and medium-sized enterprises account for approximately 25 per cent, whilst large enterprises account for around 40 per cent, indicating a relatively diverse economic structure and a relatively strong presence of larger economic entities compared with the wider region.

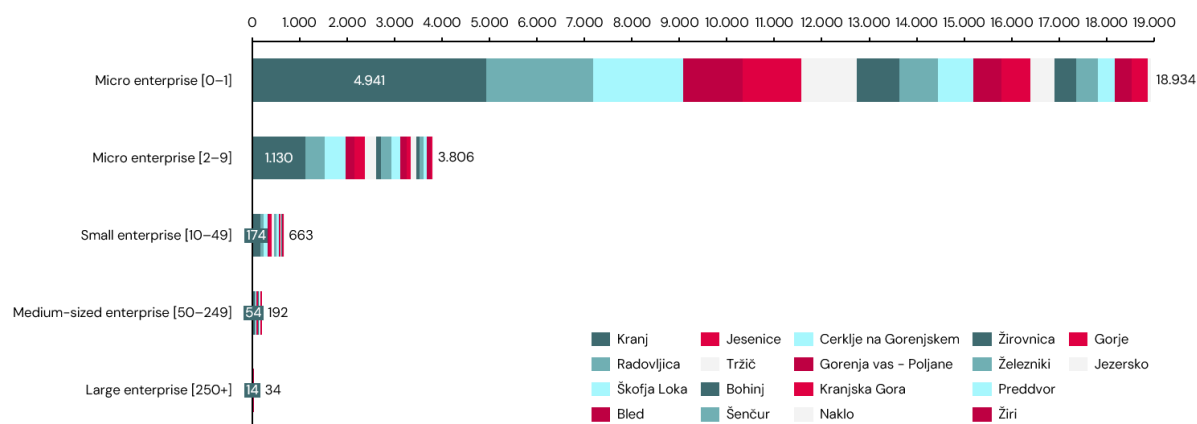


Figure 23: Analysis of enterprise size in the region

The table above provides an overview of the size structure of enterprises in the region, with a focus on Kranj's position in comparison with other municipalities.

The structure indicates that Kranj has the potential both to develop solutions aimed at the wider business environment and to collaborate with partners that are more demanding in organisational and technological terms. An overview of the



urban environment shows that, in addition to the public sector perspective, the digital strategy must also take into account the characteristics of the local and regional economic environment, which significantly influences the opportunities for the development of innovation, partnerships and the city's digital ecosystem.

2.2 Analysis by sector

An analysis by sector has shown that the region's economic structure is relatively diverse and is not heavily concentrated in any one part of the economy. An overview of the number of enterprises with at least one employee, as well as the number of employees and self-employed persons by sector, provides a better understanding of the economic environment in which the MOK's digital strategy will be implemented.

In terms of the number of enterprises, professional, scientific and technical activities, as well as other diverse business activities, manufacturing, construction, hospitality and retail stand out in particular. In terms of the number of employees, however, industry stands out in particular, accounting for approximately 30 per cent of all employees and averaging around 10 employees per company, which is roughly three times the average. Furthermore, individual sectors generally account for around one-fifth of all employees, indicating a relatively even distribution across sectors.

This sectoral structure points to the presence of various types of economic activities with differing needs, levels of digital maturity and potential for collaboration in the development of digital solutions. In reviewing the urban environment, we have concluded that, in addition to the needs of the city administration, the digital strategy must also take into account the characteristics of the wider economic area in which the following play a significant role:

- industry
- the service sector
- mobility
- trade
- sectors based on knowledge and professional expertise

The table below provides an overview of the sectoral structure of the region's economy in terms of the number of enterprises, the number of enterprises with at least one employee, and the number of employees and self-employed persons.



Figure 24: Overview of the sectoral structure of the region's economy by number of enterprises

Sector	Number of Companies	Number of Companies with at Least One Employee	Number of Employed and Self-employed Persons
Professional, scientific and technical activities and other miscellaneous business activities	4.789	1.183	7.227
Industry except construction	2.696	1.196	27.808
Construction	2.480	1.127	6.773
Catering	2.445	750	5.054
Repair of motor vehicles, wholesale and retail trade	2.189	1.107	8.813
Arts, entertainment and recreation activities and other service activities except activities of membership organisations	2.029	310	2.585
Education, health and social work	1.573	332	3.425
Information and communication activities	1.196	272	3.024
Transportation and storage	811	361	5.564
Financial and insurance activities and real estate activities	529	197	1.253
Total	20.737	6.835	71.526

2.3 Fastest-growing sectors

In addition to the overview of the current sectoral structure, the dynamics of development in individual sectors were also important for understanding the urban environment. An analysis of the fastest-growing sectors shows the ratio between the number of newly established enterprises and the number of enterprises that have ceased trading, thereby providing an insight into the development trends of individual parts of the economy.

The review showed that the fastest-growing sectors include:

- Construction
- Professional, scientific and technical activities
- Education, health and social care

Particular attention is also drawn to the significant upturn in the hospitality sector and in professional, scientific and technical activities, which indicates more pronounced dynamics of change in these sectors. Such trends are important when drawing up a digital strategy, as they indicate in which parts of the economy development potential, the need for new services and opportunities for collaboration in the city's digital development are increasing.

The table below provides an overview of the fastest-growing sectors based on the ratio of the number of newly established enterprises to the number of enterprises that have ceased trading:



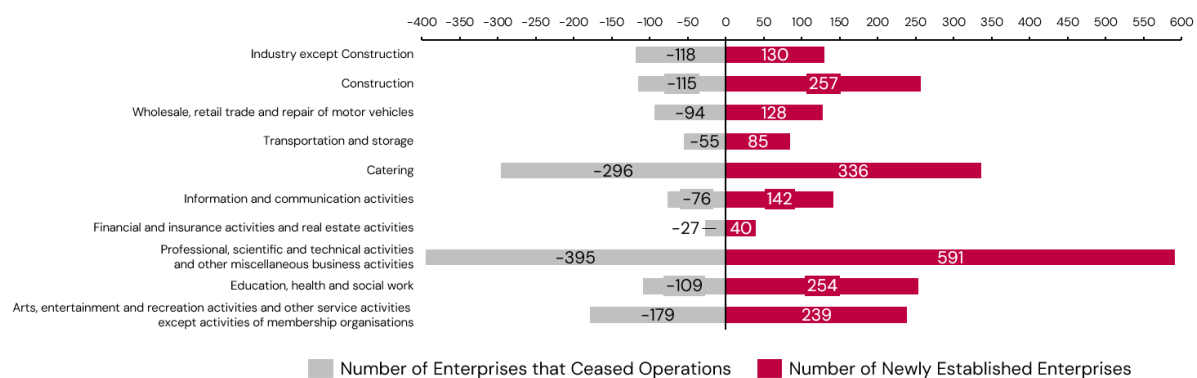


Figure 25: Ratio of the number of newly established enterprises to the number of enterprises that have ceased trading



3 Strategic documents

In drawing up the digital strategy for the City of Kranj, we also draw on a broader set of strategic documents which, at local, national and European levels, define development guidelines, priority areas and the regulatory framework for digital development. A review of these documents is important because it enables the new digital strategy to be aligned with the city's existing development policies, the national guidelines of the Republic of Slovenia, and key European initiatives and regulations.

At the level of the City of Kranj, documents defining the city's development, mobility, tourism, culture, social welfare, the environment, accessibility and other policy areas in which digital development is directly integrated are particularly important for the preparation of the digital strategy. At national level, the most important documents are strategies and action plans relating to:

- digital transformation,
- digital public services
- research
- innovation
- industrial development
- artificial intelligence

At European Union level, we have embedded the digital strategy within the broader framework of European policies, programmes and regulations, particularly in the following areas:

- data
- interoperability
- artificial intelligence
- cyber security
- digital identity
- open data

This review of strategic documents provides an important basis for the preparation of a coordinated and development-oriented digital strategy. It enables us to formulate a new strategy in line with the city's existing development objectives and in accordance with national and European priorities, which will have a significant impact on the future digital development of the City of Kranj.



The table below provides an overview of the key strategic documents relevant to the preparation of the City of Kranj's digital strategy.

Table 29: Overview of key strategic documents relevant to the preparation of the digital strategy

Kranj	Slovenia	EU
• Revision of the Sustainable Urban Strategy of the City of Kranj 2030+ • Digital Development Strategy for the Smart City and Community of Kranj 2020–2023 • Mission 100 Cities Climate Pact • Municipal Integrated Transport Strategy • Tourism Development Strategy for the City of Kranj 2021–2027 • Cultural Development Strategy for the City of Kranj 2021–2025 • Strategy for the Care of Older People in the City of Kranj 2020–2024 • Social Care Development Strategy for the City of Kranj 2022–2028 • Strategy for the Development of the Kokra Canyon • Operational Programme for Environmental Protection in the City of Kranj 2024/35/50 • Strategic Accessibility Plan • Action Plan for Gender Equality 2023–2030 • TUS+	• Digital Slovenia 2030 Strategy • Action Plan for the Digital Slovenia 2030 Strategy • National Strategic Plan for the Digital Decade • Digital Public Services Strategy 2030 • Action Plan for the Digital Public Services Strategy 2030 • Smart Specialisation Strategy (S5) • Slovenia's Research and Innovation Strategy 2021–2030 • Slovenian Industrial Strategy 2021–2030 • National Programme for Promoting the Development and Use of Artificial Intelligence in the Republic of Slovenia • Strategy for the Development of the Information Society (Digital Slovenia 2020) • Vision for Slovenia 2050	• EU Digital Strategy • European Data Strategy • Digital Europe Programme • European Green Deal • Digital Decade Policy Programme (Path to the Digital Decade) • Data Governance Act • Data Act • Artificial Intelligence Act • NIS2 Directive • eIDAS Regulation (and eIDAS 2.0) • Open Data Directive • General Data Protection Regulation (GDPR) • European Interoperability Framework (EIF) • Deutschland-Stack – sovereignty • ISO standards: ISO 37120, 37130, 37127



4 Review of other cities' digital strategies

Whilst preparing the MOK digital strategy, we also reviewed the digital strategies of other cities, as such a comparison enables a better understanding of contemporary approaches, development priorities and implementation models in the field of urban digital development. The aim of this review was to identify useful guidelines which, taking the local context into account, could be meaningfully adapted or incorporated into the preparation of MOK's digital strategy.

The review is structured into two sections. The first covers findings from the digital strategies of large cities, where the focus is primarily on issues of infrastructure, systems integration, data management and operational efficiency. The second section examines the digital strategies of innovative cities, where there is a greater emphasis on quality of life, citizen engagement and the development of solutions.

This review of other cities' digital strategies is an important complement to the 'as-is' analysis, as it enables us to shape our development priorities whilst taking into account broader trends, comparable practices and proven approaches from other urban environments.

4.1 Lessons learnt from other cities' strategies

In reviewing the digital strategies of other cities, we have found that successful approaches generally develop along two lines. On the one hand, large cities base their digital development primarily on robust infrastructure, data platforms, system integration and more efficient management of urban operations. On the other hand, innovative cities emphasise a people-centred approach, quality of life, resident engagement, experimentation and open collaboration between the city, businesses, research and educational institutions, and the public.

The review has shown that digitalisation in modern cities is not treated as a separate technological field, but rather as an integrated development framework that supports mobility, energy, the environment, public services, the economy and governance. Large cities place greater emphasis on data-driven decision-making, the digitalisation of internal processes, interoperability, and cyber security and resilience, whilst innovative cities devote more attention to participation, open data, digital trust, piloting solutions and the development of digital skills.

The cities covered in this review are:

Large cities:



- Madrid
- Helsinki
- Leipzig
- Dresden
- Barcelona
- Amsterdam
- Copenhagen
- Singapore

Innovative cities:

- Leipzig
- Dresden
- Nantes
- Tallinn
- Ghent
- Vienna
- Bristol

The table below provides an overview of key findings from the digital strategies of large and innovative cities, which are relevant to the development of the MOK's digital strategy.

Learning	Description
Key lessons from digital strategies of large cities	
Data-driven city as the foundation of city governance	The city establishes data platforms, analytics, digital twins and dashboards to enable faster, better coordinated and evidence-based decision-making.
Digital as a horizontal layer connecting all city domains	Digitalisation is not treated as a separate IT project, but as a common foundation for mobility, energy, environment, public services, economy and governance.
Strong focus on infrastructure: data platforms, connectivity, cloud and IoT	Digital strategies of large cities place strong emphasis on digital foundations such as networks, sensors, data infrastructure, interoperability and secure cloud environments.
The city develops as a platform for services, innovation and partnerships	The city becomes an enabler that opens data, infrastructure and interfaces for cooperation with external partners, companies, start-ups and research institutions.
Digitalisation of internal administrative processes is a key driver of efficiency	Large cities often first digitalise internal processes such as finance, HR, registers, applications and administrative procedures, as this quickly improves efficiency and service quality.
Integration of complex systems such as mobility, energy and safety	Strategies envisage connecting different systems into unified city management, for example traffic flows, energy, waste, public space and incident response.
Strategies are also focused on global competitiveness, talent and investment	A digital strategy is often also a development tool for attracting companies, investments, research partners and highly skilled talent.
Cybersecurity and resilience are treated as strategic foundations	Due to the scale of services and the volume of data, large cities treat security, privacy, system resilience and crisis preparedness as an integral part of the strategy, not only as a technical task of the IT department.
Key lessons from digital strategies of innovative cities (smaller / advanced)	
Digitalisation is human-centred and focused on quality of life	Technology is presented as a means to improve residents' everyday lives, increase service accessibility, strengthen inclusion and create a more pleasant urban experience.
Strong emphasis on participation, co-creation and resident involvement	Strategies of innovative cities often include workshops, community platforms, co-creation processes and other ways for residents to influence the development of solutions.
Transparency, open data and digital trust are core principles	What matters is not only the use of data, but also its accessibility, understandability, responsible use and the strengthening of trust between the city and residents.
Cities use living lab and pilot approaches to test solutions	Instead of large one-off projects, innovative cities often test smaller solutions in selected districts or on specific problems and then scale them further.
The focus is on concrete urban problems, not generic technological solutions	Strategies are based on the city's actual challenges, such as mobility, energy efficiency, inclusion of older people, accessibility or management of public space.
Connecting the administration, companies, academia and civil society plays a key role	Successful cities build digital development through cooperation between different actors, where each contributes data, knowledge, technology or access to users.
Digital inclusion and competence development are an important part of the strategy	Strong emphasis is placed on digital skills, access to technology, support for vulnerable groups and reducing the digital divide.
Strategies are implemented iteratively, agilely and as living documents	Instead of a rigid master plan, strategies are designed as a framework for gradual learning, adaptation and upgrading based on results, user feedback and technological development.

Figure 26: Overview of relevant digital strategies from large and innovative cities

This data is important for the preparation of the MOK's digital strategy because it shows that long-term successful digital development can only be built on a



combination of solid digital foundations, cross-sectoral integration, user-centred approaches and the gradual introduction of solutions arising from the city's specific needs.

Appendix 2: Analysis of feedback from citizens

This annex summarises citizens' feedback on how they use the services of the City of Kranj, what information they feel is missing, which procedures would be worth digitising, and in which areas digital solutions would most improve the quality of life in Kranj.

1 Quantitative results

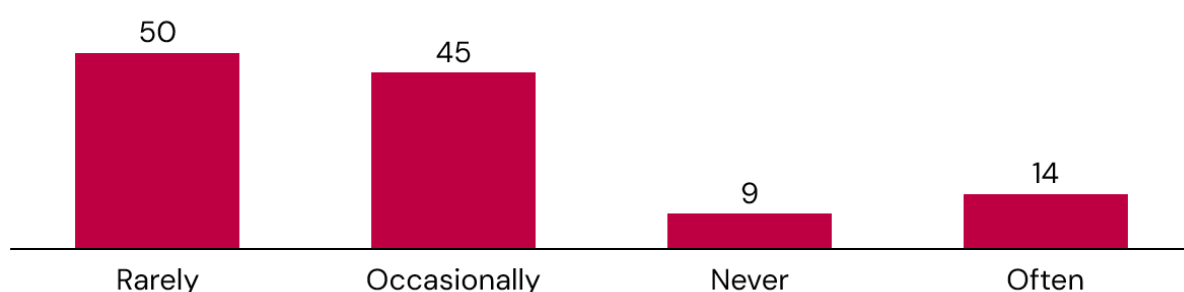


Figure 27: Response to the question: "How often do you deal with the City of Kranj or use services related to the municipality?" (n=119)

The graph shows how often residents deal with the City of Kranj or use services related to the municipality. The results show that the majority of residents use municipal services rarely or occasionally. This means that digital services must be designed to be very straightforward, as users do not use them often enough to remember complex procedures.

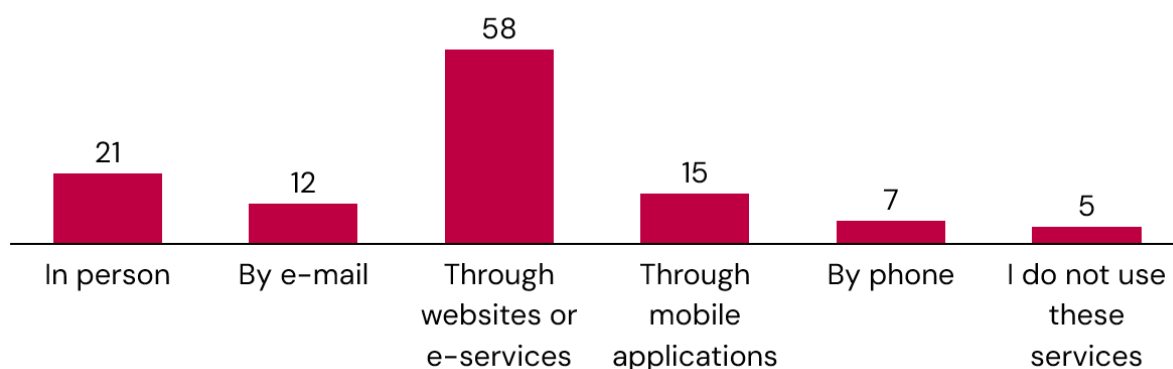


Figure 28: Response to the question: "How do you most often access municipal services or information?" (n=119)



The graph shows which channels are currently used most frequently to access municipal services and information. Websites and e-services are already a significant channel, but face-to-face contact, email and telephone remain important. This indicates that the Municipality of Kranj (MOK) needs to develop digital services whilst at the same time maintaining multi-channel access, particularly for older people and those with limited digital skills.

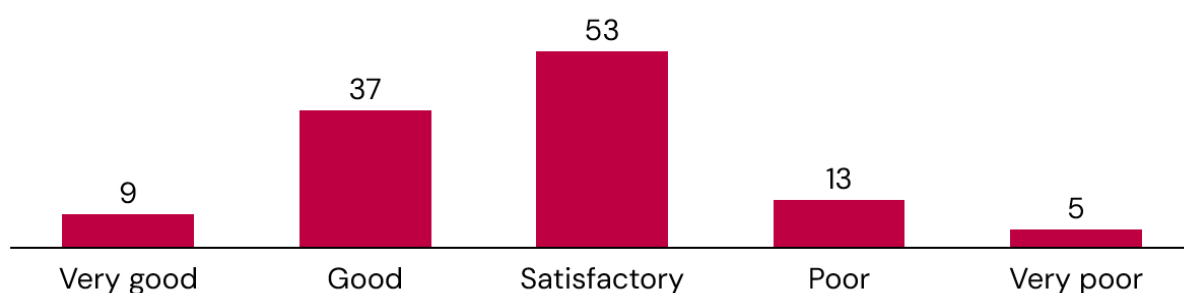


Figure 29: Response to the question: "How do you rate the accessibility and ease of use of municipal services and information?" (n=119)

The graph shows how citizens rate the accessibility and ease of use of municipal services and information. The results show that the basic user experience is not particularly poor, but neither is it excellent. Responses in the open-ended section of the survey explain that the problems often lie not in the absence of services, but in their fragmentation, lack of transparency, unresponsiveness or the excessive number of steps involved.

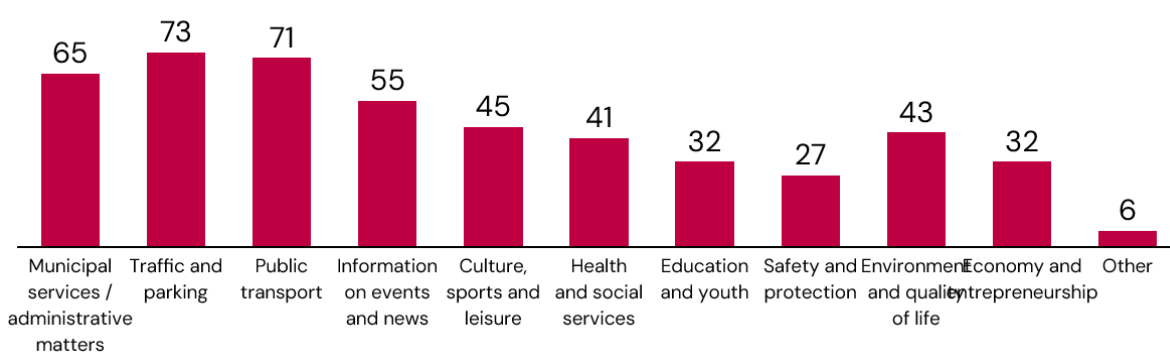


Figure 30: Response to the question: "In which areas would you most like to see better digital solutions or services?" (n=119)

The graph shows the areas with the greatest expressed need for better digital solutions. The most prominent are transport and parking, public transport, dealing with the local authority, and information on events and news. These are the areas



where digital projects would have the greatest direct impact on citizens' day-to-day experience. Under 'Other', residents mentioned CeKR and culture.

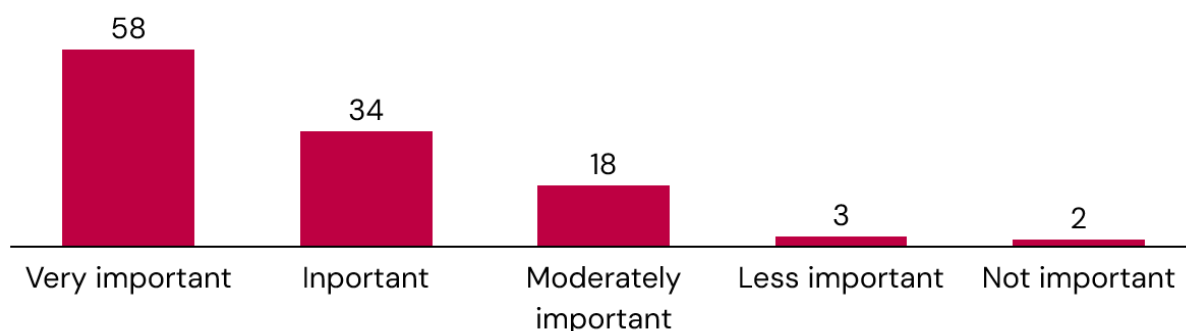


Figure 31: Response to the question: "How important do you think it is for the City of Kranj to develop digital solutions for citizens in the coming years?" (n=119)

The graph shows how important citizens consider it for the City of Kranj to develop digital solutions in the coming years. Most respondents rate this development as important or very important, but the open-ended responses indicate that support is not unconditional. Citizens expect useful, fully-fledged and user-friendly solutions, not just additional apps or the promotion of a 'smart city'.



2 Qualitative results: main themes from the open-ended responses

Traffic, parking and public transport are the most prominent user pain points

The most common specific suggestions relate to public transport, parking and traffic. Residents want to know where the bus is, when it will actually arrive, whether it is running late, how to plan their journey, where there are free parking spaces, what road closures are in place and where traffic jams are forming. Several responses specifically mention the need for an app showing real-time bus arrivals, displays at bus stops and public transport connections, including routes to Ljubljana.

Residents want a single digital access point, not a patchwork of unconnected solutions

In the open-ended responses, the need for a single app or website where key municipal information and services are brought together is frequently reiterated: traffic, parking, public transport, events, municipal notices, applications, statuses, alerts, air quality, waste collection, road closures and local amenities. One respondent described this as a “general information hub for all enquiries”, whilst another referred to it as an app or website where all key information is gathered in one place in real time.

Citizens want not just digital forms, but status updates and feedback

When dealing with the local authority, citizens highlight not only the option to submit applications online, but above all the need for better traceability: submission of applications, confirmation of receipt, status tracking, clear instructions, response times and feedback. Open-ended responses include suggestions for the digital submission of forms, permits and registrations, booking appointments, tracking officials’ responses and the resolution of matters.

Communication must be more up-to-date, local and understandable

Citizens want more up-to-date information on projects, construction works, road closures, roadworks, events, local community meetings and news. Particular attention was drawn to the case where residents lacked sufficient information about the sewerage works in the Čirče local community, as well as the desire for real-time project updates, photographs of progress and the option to subscribe to notifications regarding the start of project implementation.

CeKR has potential, but it also causes frustration



In the responses, CeKR is recognised as a good idea, but several residents have highlighted issues with its use, top-ups, the link to Rekona, monthly limits, the inability to use it via modern payment channels, and the linking of services to a specific card. Suggestions have been made that CeKR should be less tied to Rekona, linked to SI-TRUST, made available via Apple Pay, or that payments should not be tied to just one card.

Digitalisation must not exclude older and less digitally literate users

Several responses point out that digitalisation must not become the only means of accessing services. Older users in particular need traditional channels, assistance and clear instructions. One response points out that there must always be a choice between digital and traditional channels, whilst another emphasises the need for more information sessions, particularly for older citizens and pensioners.

The quality of implementation is more important than the number of projects

Some of the responses are critical of the perception that certain solutions have been implemented 'half-heartedly', that there is too much promotion, and that the user value is not sufficiently apparent. Citizens point out that digitalisation must not replace basic management of transport, infrastructure, public spaces and communication.



Appendix 3: Analysis of staff feedback on pillars 1 and 2

1 Purpose and scope of the analysis

This annex summarises the feedback collected via the 'Data request – Citizens and services' questionnaire dated 19 May 2026. The analysis includes responses from organisations and departments that deliver or support services for citizens, visitors, businesses and public institutions.

The analysis focuses on two strategic pillars:

Table 30: Strategic pillars of the analysis

Pillar	Content focus of the analysis
Pillar 1: Digital economy and ecosystem	Innovation, partnerships, businesses, start-ups, educational institutions, KReativnica, living lab, pilot projects, digital skills
Pillar 2: Digital services and society	Single point of access, user experience, digital services for citizens, real-time data, culture, sport, health, participation, communication

2 Key insights for Pillar 1: Digital economy and ecosystem

Table 31: Key insights for the digital economy and ecosystem pillar

Thematic insight	Summary of findings	Link to programmes
Digital literacy is a prerequisite for using digital services	Several organisations point out that citizens must first understand basic digital services, digital certificates, e-Government, zVEM and municipal digital channels.	Talent, mentoring and linking education with the economy
KReativnica as a learning and innovation hub	Kranj City Library sees KReativnica as a space for learning, technology demonstrations, start-ups, businesses and the creative community.	Digital literacy for citizens and KReativnica
Digital support centre for citizens	The Kranj Adult Education Centre proposes an educational platform and a digital support centre offering workshops across local communities.	Digital support and adult education platform



MOK as a pilot partner	The City Police, UGDP and infrastructure providers see an opportunity in testing smart solutions for transport, parking, public spaces, safety and infrastructure.	Start-up and scale-up ecosystem
Smart infrastructure as an innovation environment	Street lighting, transport systems, municipal services and public spaces can become a testing ground for new solutions.	Living lab/test site for AI, 5G, deep tech and GovTech pilots
Linking the economy with public needs	The responses highlight the need for a mechanism whereby the City of Maribor (MOK) sets out challenges, and businesses offer solutions, pilot projects or partnerships.	Cooperation between the City of Maribor and the local economy

3 Key insights for Pillar 2: Digital services and society

Table 32: Key insights for digital services and society

Thematic insight	Summary of findings	Link to programmes
Single point of entry	Several responses suggest an app or platform that brings together municipal services, bills, car parks, road closures, events, air quality, reports and notifications in one place.	Smart Kranj – a single digital access point
Tracking the status of requests	Municipal services, public order, transport and inspection departments highlight the need for digital reports, applications, notifications, status updates and feedback.	Digital citizen portal, digital communication
Real-time data	There is a recurring need for data on available parking spaces, road closures, traffic, bus arrivals, bike availability, public spaces, the environment and events.	Smart mobility, digital communication



Culture and tourism	The Gorenjska Museum proposes online ticket sales, a joint promotional platform, an events calendar, QR-code tours and a digital museum.	Digital tourism, culture, local offerings and city benefits
Sport and active living	The management highlights difficulties regarding access to information, programme registrations, online ticket sales and payments.	Digital health, sport and active living
Digital health and support for older people	The Kranj Health Centre emphasises that the digitalisation of healthcare is led at national level through zVEM, whilst the City of Kranj can assist with the use of these services, particularly for older people.	Local support for the use of digital health services
Digital inclusion	The Library and the Adult Education Centre point out that digitalisation must be supported by education and assistance for users.	Digital skills and citizen engagement

4 Most frequently highlighted needs

Table 33: Overview of the most frequently highlighted needs

Need	Examples from the questionnaires	Strategic implication
A single point of contact for citizens	Municipal services, events, parking, notifications, bills, fault reporting	Development of 'Smart Kranj' as the central digital entry point
Digital submission of applications and reports	Traffic wardens, traffic, inspections, municipal reports, permits	Introduction of status tracking and process digitisation
Online payments and bookings	Tickets, sports programmes, cultural events, parking, municipal services	Integration of CeKR, e-payments, bookings and city benefits
Real-time data	Car parks, traffic, road closures, buses, bicycles, the environment, public spaces	Development of a data platform, mobility module and dashboards



Digital literacy	KReativnica, LUK, zVEM, e-Government, digital certificates	Establishment of a permanent digital support programme
Innovation test environment	Smart parking, street lighting, public spaces, mobility, security	Kranj as a living lab for GovTech, AI, IoT and 5G solutions
Joint promotion of the city's offerings	Culture, tourism, sport, events, local providers	Digital platform for events, offerings, tickets and benefits

5 Linking feedback to strategy projects

Table 34: Illustration of the link between feedback and strategy projects

Findings from the questionnaires	Project or programme addressing this
Need for a single application for services, bills, registrations, notifications and real-time data	Smart Kranj, Digital Citizen Portal
The need for systematic digital literacy	Digital literacy for citizens and KReativnica
The need for a digital support centre	Digital support and adult education platform
The need for online ticket sales, an events calendar and a digital museum	Digital cultural and tourism platform
The need for online registration for sports programmes and payments	A digital portal for sports facilities, programmes and bookings
The need to support older people in using digital health services	Local support for using zVEM and digital health services
The need for real-time parking and traffic data	Smart mobility, transport and parking
The need to test smart solutions with businesses	Kranj as a living lab/test site
The need for a platform for reporting, status updates and communication with services	Digital communication, notifications and personalised content



The need for smart street lighting and fault reporting	Urban IoT, sensors and smart urban infrastructure
--	---



Appendix 4: Analysis of staff feedback regarding pillars 3 and 4

1 Purpose and scope of the analysis

This annex summarises feedback from employees, public institutions, public enterprises and related organisations that is relevant to:

Table 35: Employee feedback on pillars 3 and 4

Pillar	Focus of the analysis
Pillar 3: Digital foundations	Data platform, IoT, sensor technology, GIS, digital twins, smart urban infrastructure, smart mobility, environment, water, energy and waste
Pillar 4: Digital management and operations	Internal processes, project collaboration, e-business, public order, inspection, interventions, educational processes, public procurement, competencies, AI, security and change management

The analysis is based on responses to the 'Data Request – Citizens and Services' questionnaire dated 19 May 2026, consolidated initiatives from additional sources, and workshop outcomes from strategic projects.

2 Key insights for Pillar 3: Digital foundations

Table 36: Key insights for Pillar 3: Digital foundations

Thematic insight	Summary of findings	Link to programmes
Data is scattered across multiple systems and administrators	MOK uses several applications, IoT devices and external platforms, but the data is not managed within a unified architecture; furthermore, there is no clear administrator or access to data when it comes to the operation of these devices.	City data platform, open data and dashboards
A catalogue of data sources and digital assets is required	Workshop proposals highlight the need for an inventory of internal data sources, interoperability between sources, standardised data processing and data accessibility for staff.	Catalogue of data sources, data management



Staff need real-time data	Public utilities, transport, traffic enforcement, Vigred and UGDP highlight traffic, car parks, road closures, air quality, noise, public spaces, bicycles, buses and public utility disruptions.	Smart mobility, Smart environment, City IoT
Smart lighting presents an opportunity for intelligent infrastructure	Vigred views public lighting as infrastructure that can reduce costs, energy consumption and light pollution, whilst improving safety and management.	Urban IoT, Smart Environment, Water, Energy and Waste
Greater transparency regarding sensor data is required	The workshop proposal includes QR codes on sensors explaining the purpose of data collection.	Urban IoT, Sensors and Smart Urban Infrastructure
Mobility requires a connected data infrastructure	The Transport Department and the UGDP highlight car park occupancy, bus arrivals, bike availability, traffic congestion, journey costs and carbon footprint.	Smart mobility, transport and parking
Environmental and municipal data should become part of the user experience	The Municipal Services Department proposes a digital citizen portal, providing information on water, waste, e-bills, booking waste collection and reporting anomalies.	Smart environment, Smart Kranj
An architectural link between platforms is required	The links between Smart Kranj, UrbanMind, CeKR, GIS, the data platform and external operators' systems must be clearly defined.	Digital foundations as a horizontal architecture

3 Key insights for Pillar 4: Digital management and operations

Table 37: Key insights for Pillar 4: Digital management and operations

Thematic insight	Summary of findings	Link to programmes
Internal processes rely too heavily on	The workshop highlights an excessive number of pointless	Digital working environment and



email and manual coordination	emails, the need for project tools and well-organised M365 shared folders.	project collaboration at MOK
There is no unified system for project and process management	UGDP points out that there is no municipal programme for managing projects and work processes, which leads to a loss of accountability and missed deadlines.	A unified digital environment for projects, documents and collaboration
Public procurement and internal procedures require a digital workflow	The workshop highlights the procurement committee via GC, changes to internal public procurement procedures, the excessive number of steps in Cadis, and e-business.	Optimisation of internal processes and e-business
Permits, opinions and approvals require integration and AI support	The Transport Department highlights attachments and missing entries in GC, whilst UGDP focuses on the electronic generation of complete applications and the use of AI for opinions, consents and permits.	Municipal process platform with AI support
The Inspection Department requires comprehensive e-business	The inter-municipal inspection service highlights lengthy and opaque procedures and the need for e-applications, e-replies and electronic decisions.	E-inspection
The municipal police need an operational platform	The municipal police highlight the reporting of offences with photographs and location details, status tracking, fieldwork and coordination between services.	Digital operational platform for the municipal police
Interventions require integrated operational support	Consolidated initiatives highlight an integrated platform for managing GARS interventions and	City IoT, Digital Intervention



	the integration of operational and business systems.	Management Platform
School and sports processes require digital administrative support	The initiatives highlight the procurement of services for school activities, the reduction of manual data transfer, and the digital management of sports programmes, facilities and data.	Digital support for school processes, digital health, sport and active living
AI must be introduced responsibly and with training	The workshop highlights internal LLMs and regular AI training, whilst a framework for the responsible use of AI and data is also required.	AI support for staff and internal LLMs
Digital transformation requires new skills and an update to job roles	The highest-rated workshop initiative is the reform or updating of job titles; the development of MOK staff is also important.	Digital skills, onboarding and organisational development at MOK
Security must be integrated into management	The workshop covers a unified MOK security policy and penetration tests for Smart Kranj.	Cyber security, privacy and digital trust

4 Most frequently highlighted needs

Table 38: The most frequently highlighted needs

Need	Examples from questionnaires and workshops	Strategic Implication
Unified data platform	Integration of data sources, open data, dashboards, data catalogue	Establish a data platform, a resource catalogue and data management
Register of digital and IoT assets	Unclear administrators, external platforms, the municipality has no insight into some of the data	Establish a register of assets, ownership, access and maintenance rules
Real-time data	Car parks, road closures, buses, bicycles, air quality, noise, public spaces, events	Develop mobility, environmental and operational data streams



Status tracking of requests	Municipal reports, traffic warden reports, permits, applications, complaints	Introduce ticketing and status tracking for users and internal processes
Project and process management	Too many emails, loss of accountability, lack of deadlines and owners	Introduce a unified project and collaboration environment
Process integrations	Linking permits with GC, Cadis, public procurement and e-business	Digitise procedures as workflows, not just as forms
AI support for staff	Internal LLM, AI for opinions, approvals, permits and training	Introduce an internal AI assistant, a register of use cases and rules of use
Digital skills	Staff development, job modernisation, onboarding, mentoring	Establish a competency model and an e-learning platform
Security and trust	Security policy, penetration tests, suppliers, critical systems	Introduce a unified security framework and regular security audits

5 Linking feedback to strategy projects

Table 39: Findings from the questionnaires and their link to strategy projects

Findings from questionnaires or workshops	Project or programme addressing it
Data is scattered across multiple applications and external operators	City data platform, open data and the transition to data-driven management
There is no comprehensive overview of data sources, data owners and data quality	Catalogue of internal data sources, data management and standardised data processing
Management and staff need an overview of objectives, projects and indicators	Shared dashboards for strategic objectives, projects, indicators and public city data
GIS layers are required for the cycle network, footpaths and accessibility	GIS and public maps for mobility, accessibility, footpaths, the cycle network and urban infrastructure
Smart lighting should become intelligent infrastructure	Smart and adaptive public lighting as intelligent urban infrastructure



Sensors should be transparent and explained to citizens	Smart street furniture and QR code transparency for sensors
Data is needed on traffic flows, parking, buses and bicycles	Smart mobility, transport and parking
Alerts are needed regarding municipal disruptions, waste, water and anomalies	Citizen's digital portal, smart environment, water, energy and waste
Too many internal arrangements are handled via email	A unified digital project, document and collaboration environment for MOK
Public procurement and internal procedures involve too many manual steps	Digitisation of public procurement, procurement committees, order records and strategic GovTech procurement
Permits, opinions and consents require improved workflows and AI support	A municipal process platform with AI support for permits, opinions, consents and development procedures
Inspection and offence proceedings are lengthy and opaque	E-inspection and the digitisation of inspection and offence proceedings
Municipal enforcement officers need reports with photographs, location details, status updates and field support	A digital operational platform for municipal enforcement officers covering reports, offences, field operations and service coordination
GARS requires an integrated platform for interventions	A digital platform for managing interventions and sensor technology for natural hazards and public safety
Schools need digital support for procuring services for their activities	Digital support for school administrative processes and the procurement of services for activities
Staff need an AI assistant and regular AI training	In-house LLM and AI assistant; a programme of regular staff training on AI and GovTech tools
Digital transformation requires a re-evaluation of skills and roles	Digital skills framework, role updates and MOK staff development
A security policy and regular security audits are required	Unified cyber security policy, penetration tests and security validation



6 Priority areas identified from feedback

Table 40: Priority areas identified from feedback

Priority area	Brief description	Strategy recommendation
1. Establish data and IoT governance	Inventory data sources, IoT assets, administrators, access rights, data flows and responsibilities.	Start with a data catalogue and asset register as a foundational project for Pillar 3.
2. Integrate key platforms	Clearly define the relationship between Smart Kranj, UrbanMind, CeKR, GIS, GC, Cadis and external systems.	Prepare the MOK target architecture and integration plan.
3. Introduce real-time data services	Prioritise the inclusion of traffic, parking, public transport, cycling, the environment, road closures, public spaces and municipal disruptions.	Establish the first dashboards and public displays with high user value.
4. Digitise processes involving the most manual work	Permits, opinions, consents, public procurement, inspections, municipal enforcement and internal requests.	For each process, first simplify the workflow, then digitise it.
5. Introduce a unified project and collaboration environment	Reduce email, increase visibility of tasks, deadlines, responsibilities and documents.	Introduce project standards, templates, owners and training.
6. Introduce AI as a secure work support tool	AI should assist with drafts, summaries, opinions, approvals, knowledge search and analytics.	Introduce an internal LLM, rules for AI use, risk assessments and regular training.
7. Strengthen digital skills and security	Staff need the knowledge to use new tools, processes, AI and security rules.	Establish a competency model, onboarding procedures, an e-learning



		platform and security training.
--	--	---------------------------------

