

IoT FROM THE NORTH

THE FASTEST ROUTE TO IOT

IoT-TICKET



IOT-TICKET® BROUGHT TO YOU BY WAPICE LTD.

IoT-TICKET® is part of **Wapice Ltd.**, a **Finnish** IoT and AI company, **established in 1999**. Headquartered in Vaasa, having 10 offices in all largest cities in Finland, and Wapice employees 350+ IoT and AI experts. Wapice serves both local and global companies.

IoT-TICKET® service is developed and offered according to standards of ISO 9001, 14001 and 27001 certifications.



GLOBALLY AWARDED SOLUTION

IoT-TICKET® has won **Microsoft Global Application Innovation Award**, being the only Nordic brand having the award.

Enabling Technologies Award in Smart City World Congress with Tampere Smart City

Best of Industry Award, IoT Platform with Schaeffler

Industry 4.0 Innovation award with Schaeffler

Red Dot Design Award with Schaeffler

Best public procurement of Finland 2020 (Tampere Smart City)

Energy Genius Award for saving 80% of electricity in retail environment with Granlund

Multiple Key Use Cases presented in OPC Foundation (critical infrastructure and energy production use cases)

Partner of the Year

Global Application Innovation Award Winner

Microsoft Inspire 2019



IOT-TICKET

CORE FEATURES

Services

Organisations & Users

Application Layer

Device and Asset Management

Connectivity

IOT-TICKET

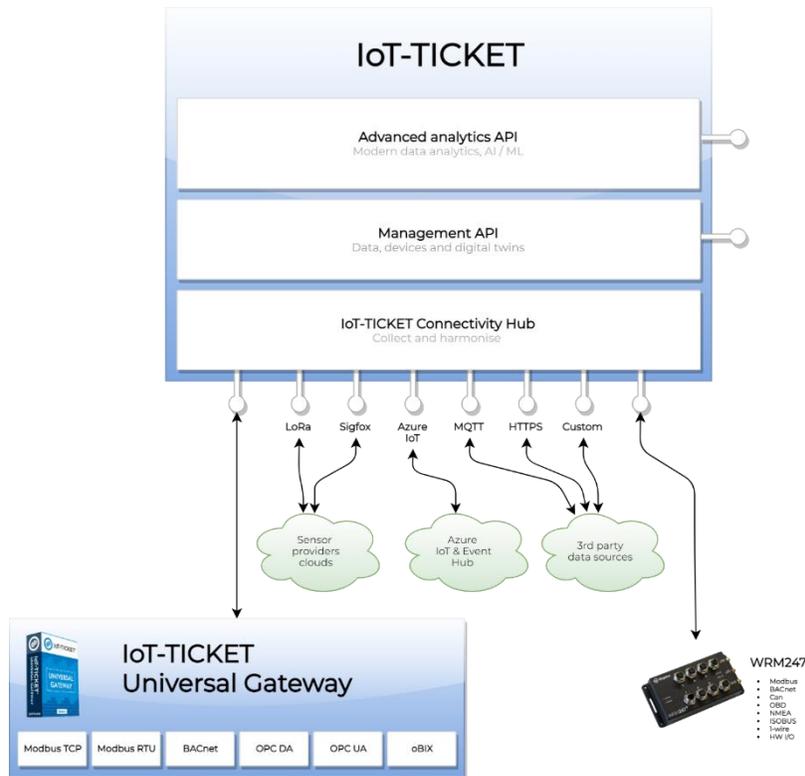
CORE FEATURES

Services

Organisations
& Users

Application
Layer

Device and
Asset
Management



Connectivity

Acquire valuable data from diverse range of data sources

Seamlessly connect and harness the power of your IoT devices, sensors, and existing data systems. Break down data silos, integrate data together from various systems.

Let connectivity layer to automatically harmonise and prepare easily accessible timeseries for you with data aggregation. This enables easy and neat IoT application building without spending too much time on data preprocessing.

IOT-TICKET

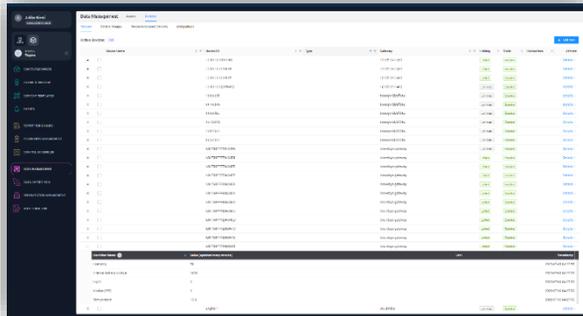
CORE FEATURES

Services

Organisations
& Users

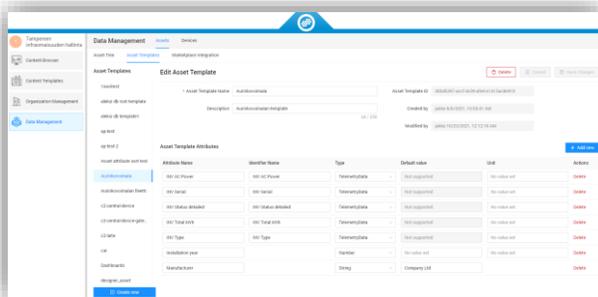
Application
Layer

Connectivity



A screenshot of the IOT-TICKET dashboard showing a list of devices and assets. The table has columns for ID, Name, Type, Status, and Location. The status column shows various icons representing different device states.

ID	Name	Type	Status	Location
101	IoT Gateway	Gateway	Online	Factory Floor
102	IoT Sensor	Sensor	Offline	Warehouse
103	IoT Actuator	Actuator	Online	Production Line
104	IoT Camera	Camera	Online	Security
105	IoT Relay	Relay	Online	Control Room



A screenshot of the IOT-TICKET dashboard showing the 'Data Management' section. It displays a table of 'Asset Template Attributes' with columns for Attribute Name, Identifier Name, Type, Default Value, and Unit. The table lists various attributes like 'Asset ID', 'Asset Name', 'Asset Type', etc.

Attribute Name	Identifier Name	Type	Default Value	Unit
Asset ID	Asset ID	Text		
Asset Name	Asset Name	Text		
Asset Type	Asset Type	Text		
Asset Location	Asset Location	Text		
Asset Status	Asset Status	Text		
Asset Model	Asset Model	Text		
Asset Manufacturer	Asset Manufacturer	Text		
Asset Serial	Asset Serial	Text		
Asset Firmware	Asset Firmware	Text		
Asset IP	Asset IP	Text		
Asset MAC	Asset MAC	Text		
Asset Gateway	Asset Gateway	Text		
Asset Protocol	Asset Protocol	Text		
Asset Port	Asset Port	Text		
Asset Data	Asset Data	Text		
Asset Config	Asset Config	Text		
Asset Metadata	Asset Metadata	Text		
Asset Tags	Asset Tags	Text		
Asset Location	Asset Location	Text		
Asset Status	Asset Status	Text		
Asset Model	Asset Model	Text		
Asset Manufacturer	Asset Manufacturer	Text		
Asset Serial	Asset Serial	Text		
Asset Firmware	Asset Firmware	Text		
Asset IP	Asset IP	Text		
Asset MAC	Asset MAC	Text		
Asset Gateway	Asset Gateway	Text		
Asset Protocol	Asset Protocol	Text		
Asset Port	Asset Port	Text		
Asset Data	Asset Data	Text		
Asset Config	Asset Config	Text		
Asset Metadata	Asset Metadata	Text		
Asset Tags	Asset Tags	Text		

Device and Asset Management

Gain full control over your devices

Effortlessly manage your device fleet with comprehensive device management features. Use powerful auto-provisioning functionality by promoting select devices to be IoT gateway devices.

Assets are the basis of digital twins. Digital Twins contain all the data including telemetry, calculated, static and event data.

IOT-TICKET

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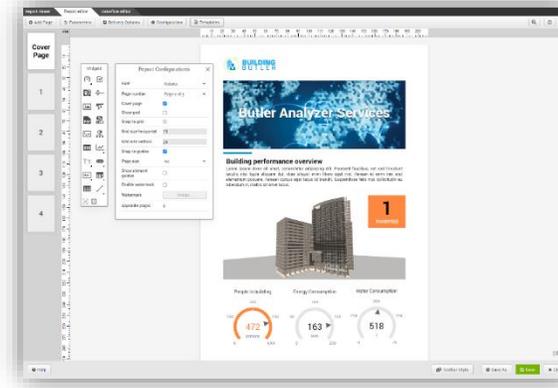
Web Applications

Unlock the power of IoT data with IoT-TICKET Dashboards. Gain real-time insights, track performance, and control devices effortlessly.

Application Layer

Reports

Stay informed with reports, create and automate reports from your assets



Notifications & Alarms

Get notified when required, focus on critical assets and gain actionable insights for enhanced operations

IOT-TICKET

CORE FEATURES

Services

Application Layer

Device and Asset Management

Connectivity

Organisations & Users



Multi-tenant system

Model your business how you vision it. Create new business models by monitoring usage of customers

Users & Profiles

Viewers users – enjoy applications and data

Operator users – may also command and control

Designer users – Create, innovate and manage

Organization Admins – Access organization management

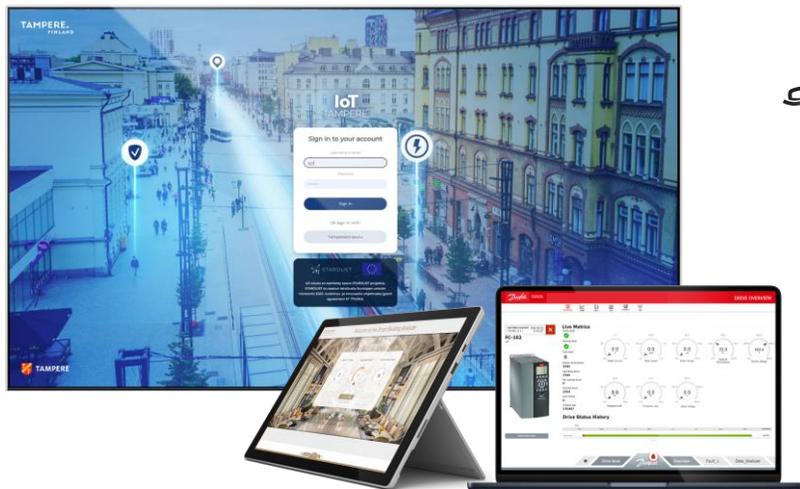
IOT-TICKET CORE FEATURES

Organisations
& Users

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Connectivity



Services

VAK

Junttan
respecting ground

Logisnext

SARLIN

ADMARES

Kiinteistötekniikka Oy
AMMI

LOIMUA



KESLA

Granlund

Caverion

ALFA
LAVAL



TAMPERE.
FINLAND

ENSTO

EPEC

HELEN

MOVAX

signify

Pilaster

SEW
EURODRIVE

Linkker

ELEMATIC

Danfoss

Silva Oy

SCHAEFFLER

VITERA

PEAB

RetailTech

EcoReal

AFRY

RAMBOLL

IOT-TICKET

IoT-TICKET[®] FOR SMART CITIES

What is it all about?

Data driven decision making in today's modern cities is an enabler for sustainable growth considering environmental and economical impacts. Our offering allows to bring the city data together from any devices to **build holistic view of your city.**

Use **data driven decision making like never before.** When the funds go where they make the biggest difference, everybody wins. You and your citizens.

See the big picture: Focus services to where it matters the most and give your citizens easy access through digital applications.

Measure what matters: Measure and optimize the energy efficiency and carbon footprint. Analyze and predict maintenance needs.

Sustainable cities
World class services for residents
Happy citizens

Traffic planning



People flow & safety



City infra maintenance
& lighting management



Property management



Renewable energy
management



Application
platform
IoT-TICKET®

Connectivity & Data
Harmonization
IoT-TICKET®

Connectivity

IoT-TICKET
Machine vision
Edge / Fog



Outdoors

IoT sensors

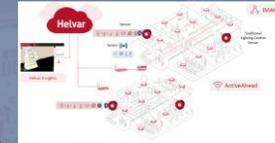


Indoors

Access management



Lighting and
occupancy sensing



BMSs



Security & Privacy

smart cities **focus areas**

We offer **market ready IoT, analytics and AI solutions** to enable cities to take the leap towards data driven decision making and automation through combining data and analytics into intelligent market ready service offering.



sustainable and easy **MOBILITY**

IoT-TICKET® for mobility offer holistic city people flow, traffic and parking management.

Optimize mobility fluency and make local businesses flourish.



safe and clean **URBAN AREAS**

IoT-TICKET® for urban areas introduces flexible and efficient way to maintain and develop city urban areas.

Optimize the urban area safety, living comfort, carbon footprint, and costs.



carbon negative and healthy **PROPERTY MANAGEMENT**

IoT-TICKET® for property management offer holistic building fleet management.

Optimize building fleet maintenance and carbon footprint.



green and flexible **ENERGY**

IoT-TICKET® for energy introduces flexible and efficient way to manage green & flexible energy systems.

Optimize energy production and maintenance.

TAMPERE.
FINLAND

IoT-TICKET[®] for smart cities

THE HOME OF TAMPERE IOT

TAMPERE. CASE STORY

FINLAND



CUSTOMER INTRO

- The largest inland city in the Nordic countries
- Over 500 000 inhabitants in Tampere region
- Centre of Finnish industry
- One of the most rapidly developing regions in Finland



SOLUTION

- IoT-TICKET® as city wide IoT-platform solution
- Outdoor lighting control system and urban environment sensing
- Data ecosystem for companies, R&D and education to work together
- Marketplace for IoT apps and data
- Citizen development enabler



KEY RESULTS

- Support ecologically sustainable change
- Improve the quality of citizens' services
- Automate operations, anticipate maintenance needs
- Information to support planning, decision-making and management
- Innovation platform

TAMPERE. CASE STORY

FINLAND



Smart environment

- Environment sensing
- Leakage detection
- Water monitoring
- Flood control
- Fire detection

Smart energy

- Consumption forecasting
- Condition monitoring
- Energy optimization
- Energy trading
- Smart grid

Smart cities

- Traffic congestion control
- Urban noise control
- Smart buildings
- Smart parking
- Smart lights

Smart logistics

- Storage optimization
- Shipping conditions
- Location tracking
- Fleet tracking
- Geofencing

Smart Manufacturing

- OEE & TEEP Monitoring
- SCM Optimization
- Employee Safety
- Digital Services
- Digital Twin

TAMPERE.
FINLAND

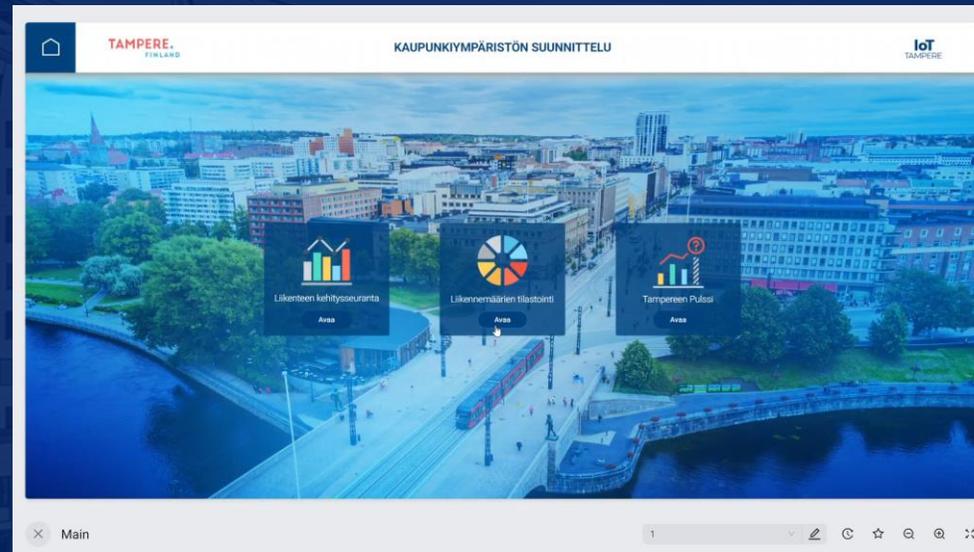
IoT-TICKET[®] for **smart cities**

Use case example: Traffic planning

traffic flow case traffic planning

Access full lifecycle data

Monitor and compare your KPIs



View your mobility areas
in a glance

Measure change and automate
reporting

Utilize the power of AI based
machine vision



Drill down to single area or
measurement point



the power of traffic & urban flow data a story from Tampere

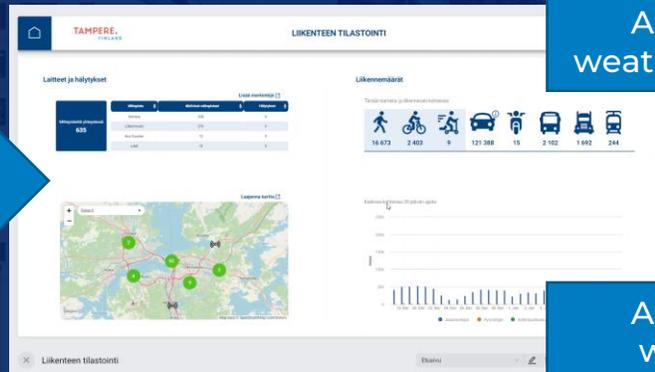
Tampereen Pulssi urban flow forecasts for local businesses. **Strong businesses and improved visitor experience.**

Measure event flows in Ice Hockey world championships 2022.



Expand

Holistic traffic data from whole city for traffic planning (>600 meas points).
Efficient data driven traffic planning towards carbon neutral traffic.



Apply ML with weather & event data

Dynamic streetlight control based on weather and traffic. **Safe & energy efficient street lighting.**

Apply ML with weather data



sustainable and easy mobility

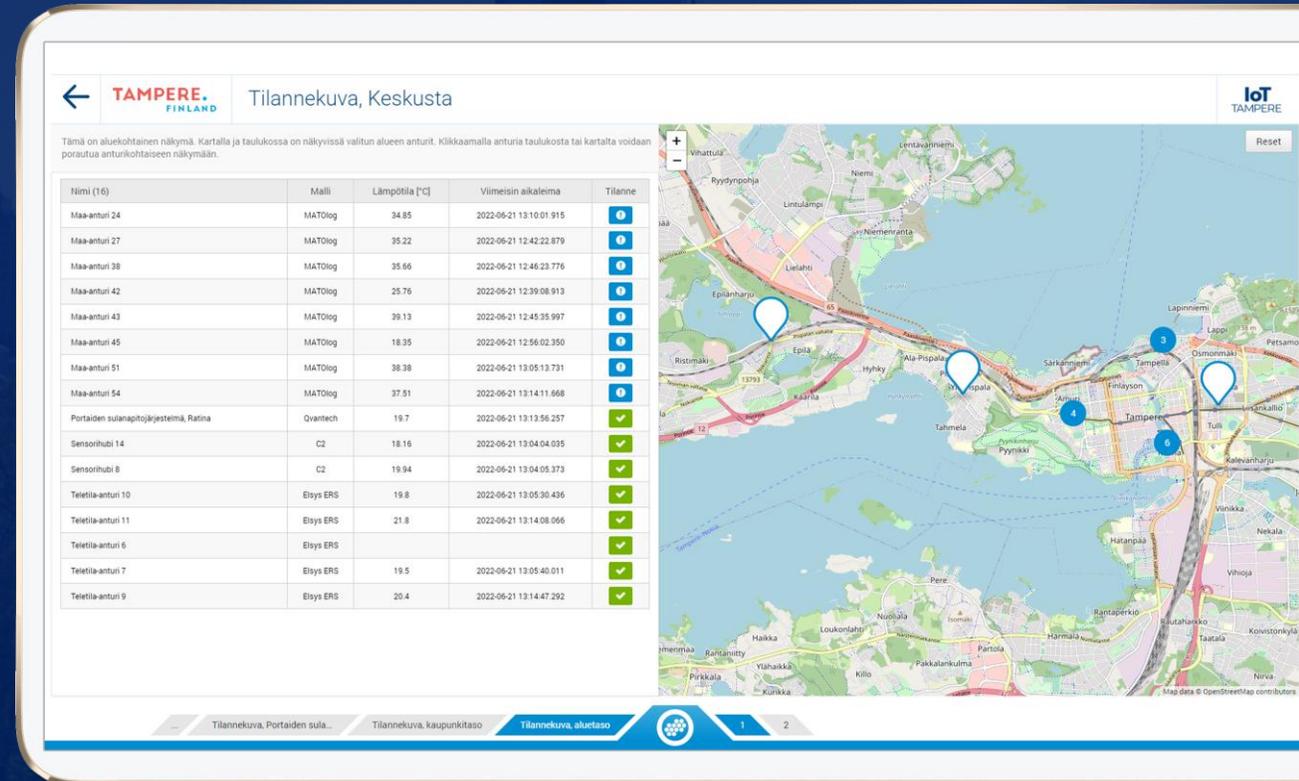
TAMPERE.
FINLAND

IoT-TICKET[®] for **smart cities**

Use case example: Outdoor maintenance

maintain urban environment

- 🌀 optimize maintenance costs
- 🌀 enable safe and clean urban areas for citizens
- 🌀 data driven planning of urban areas

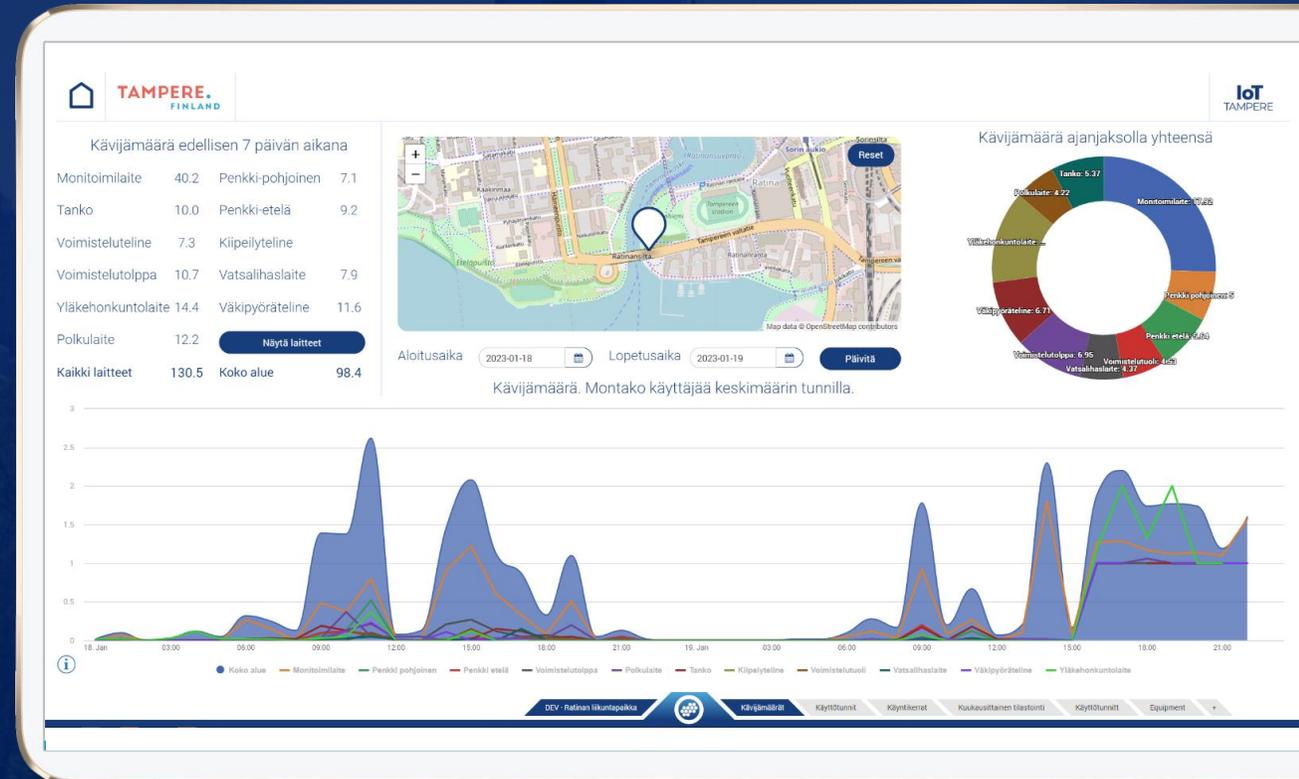
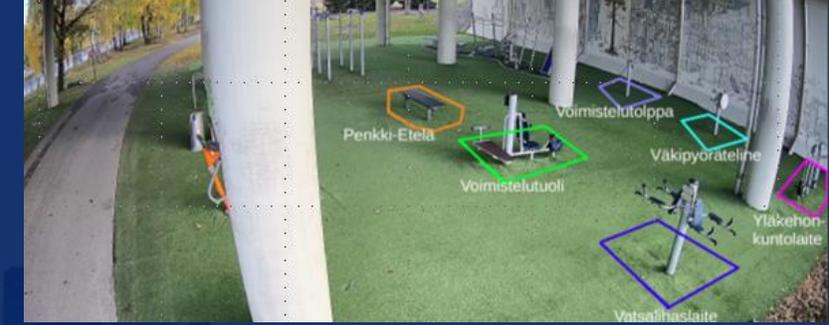


safe and clean urban areas

manage outdoor areas

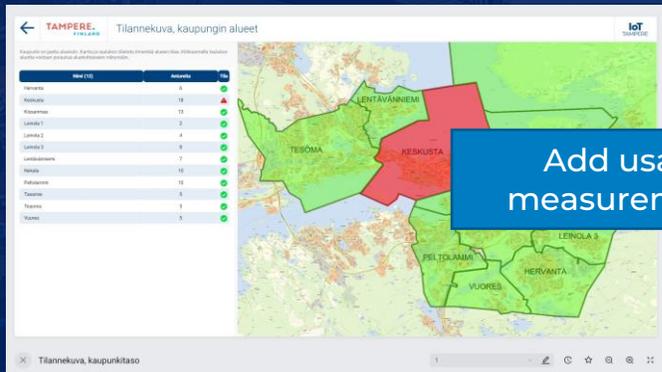
- utilization based maintenance planning
- safe equipment and areas
- visitor forecasts for the citizens

safe and clean **urban areas**



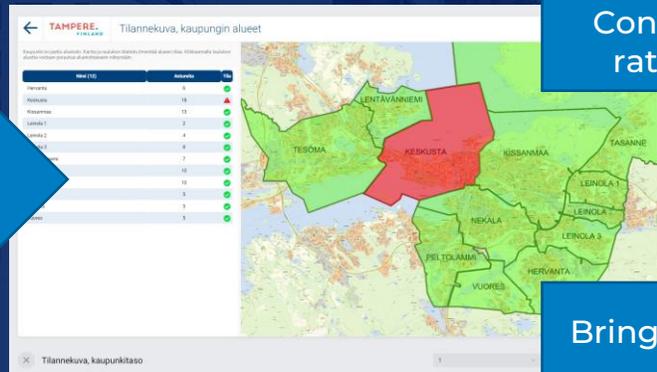
the power of outdoor area data a story from Tampere

Measure weather conditions of outdoor areas.



Add usage measurements

Utilization rates from outdoor areas.
Cost efficient maintenance and investment planning.



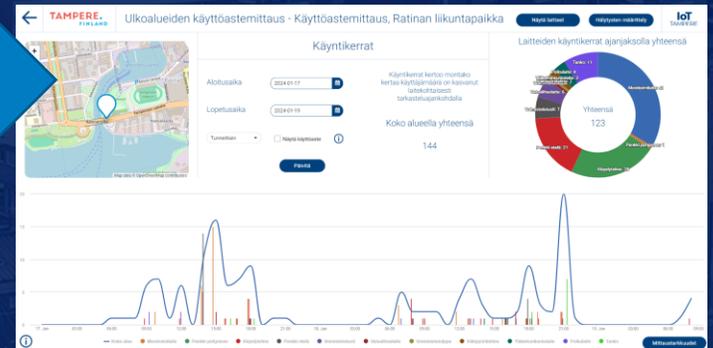
Connect utilization rates to lighting



Dynamic lighting control based on utilization data. **Safe, enjoyable and cost-efficient outdoor areas.**

Plan your visit based on visitor amounts.
Safe and enjoyable outdoor areas.

Bring data to citizens



sustainable and easy mobility

TAMPERE.
FINLAND

IoT-TICKET[®] for **smart cities**

Use case example: Smart Streetlighting



maintain streetlighting

- Optimize city lighting maintenance
- Improve citizen experience and urban area safety
- Manage multi-supplier lighting control fleet

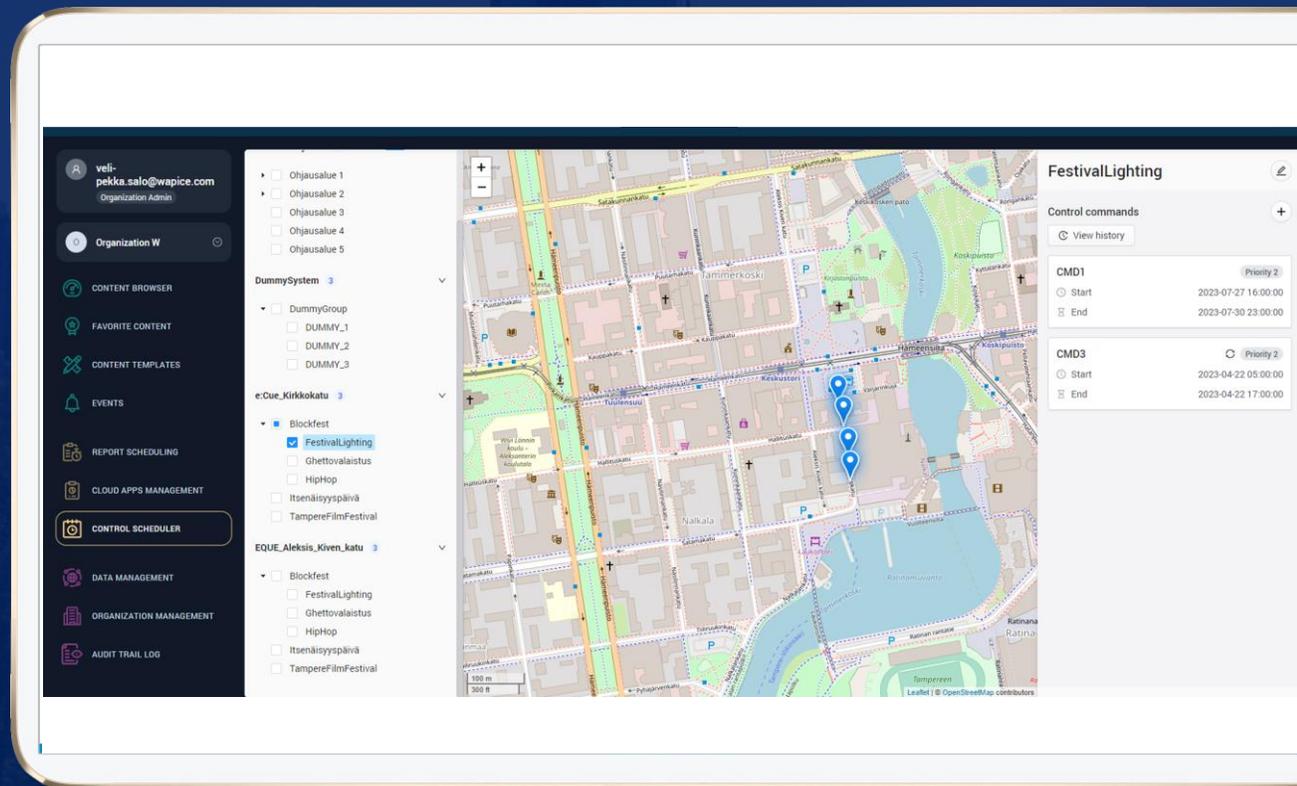


safe and clean urban areas



manage streetlighting

- Manage and schedule atmosphere and streetlighting
- Enable vibrant city environment events
- City lighting event producer and authority control

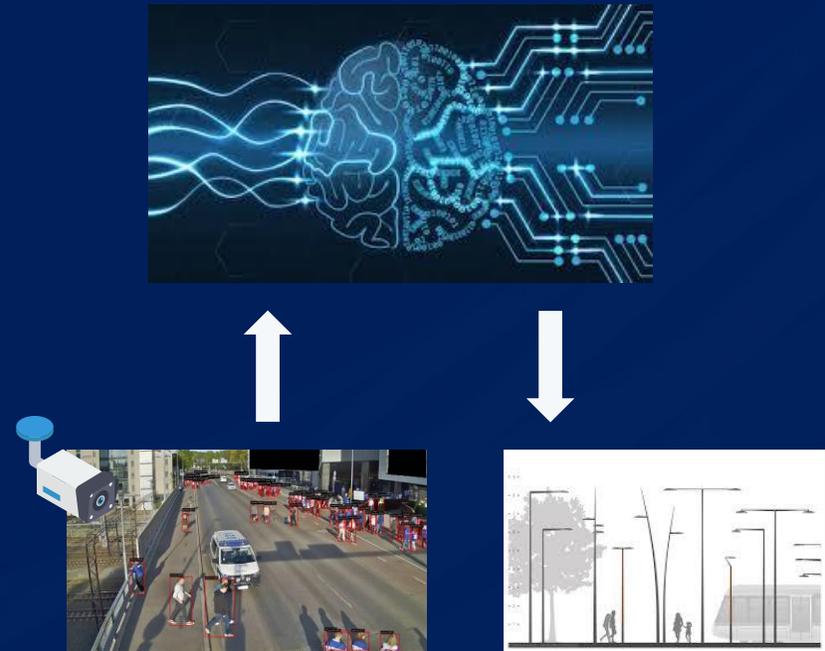


safe and clean **urban areas**



adapt streetlighting

- Adapt streetlighting based on traffic and weather
- Safe electricity costs
- Avoid light pollution
- Increase citizen satisfaction



safe and clean **urban areas**

the power of city lighting a story from Tampere

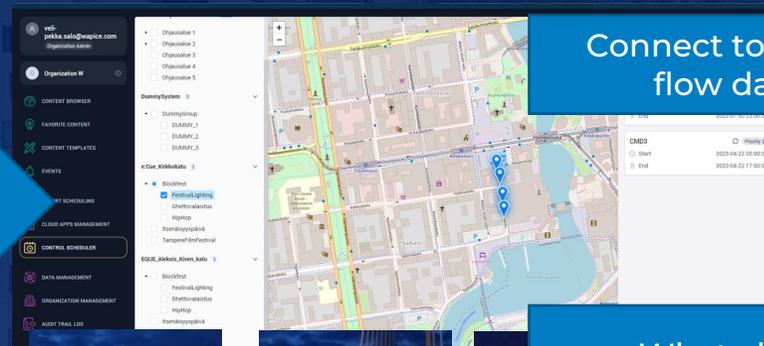
Dynamic event lighting based on situation.
Immerse & safe event experiences

Traditional street light control.



Expand to special lighting control

Streetlight and special light management solution for events & authorities.
Safe and enjoyable city events.

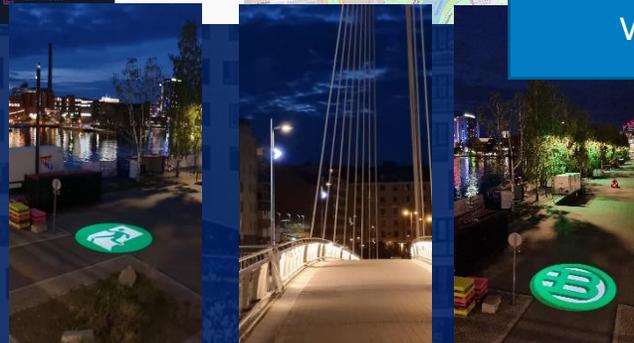


Connect to urban flow data



What else?

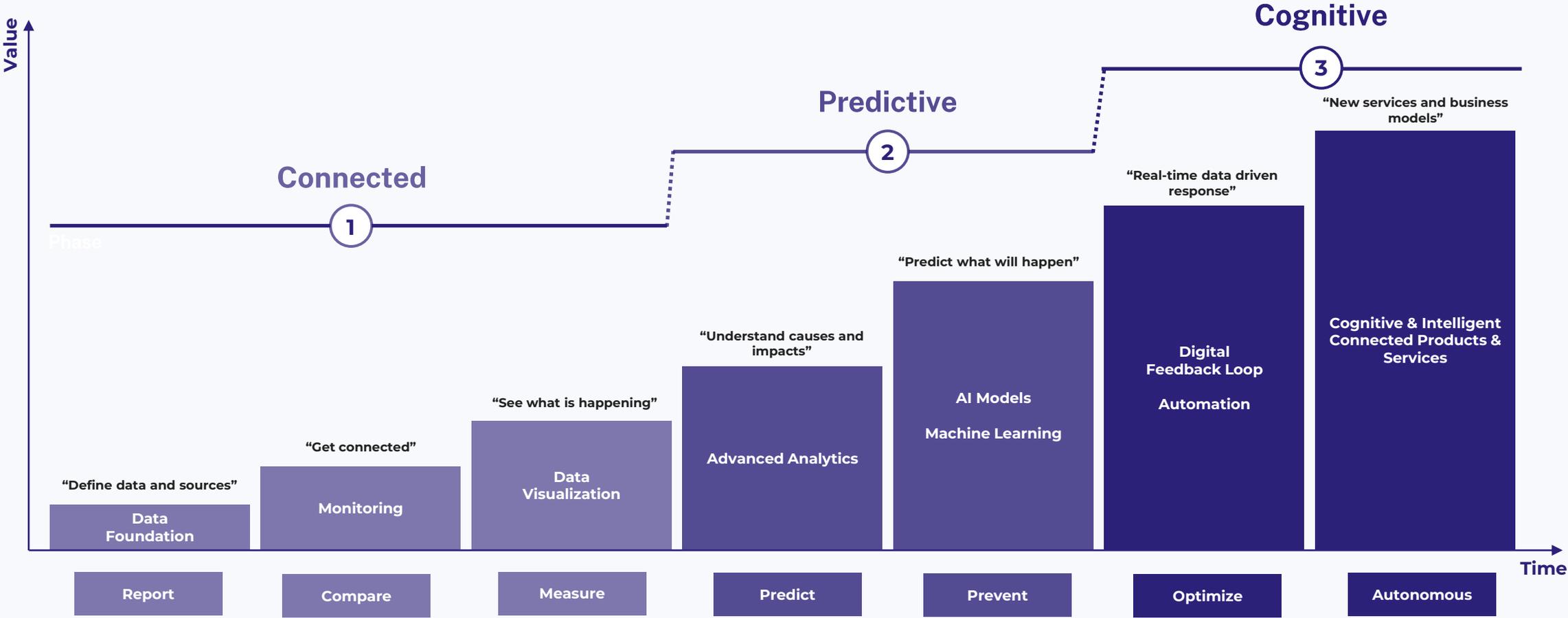
YOU NAME IT!



sustainable and easy **mobility**

STEPS FOR IOT SERVICE CREATION

How to create new digital services?





27.3°C

56.7%

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IoT-TICKET®

Enabling *anybody* to create massive-scale, production-grade Internet of Things & Artificial Intelligence applications stunningly fast

IoT-TICKET®

THANK YOU | **KIITOS**