

Focus Area: Smart City & Technology

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Tagline

The overarching goal is to advance smart technology solutions that increase the sustainability, connectivity, productivity and resilience of Swiss businesses and cities. Through their technologies and products, the startups solve specific Innovation Challenges defined by Swiss corporations and cities in different focus areas.

Focus Area Description

Sustainable urbanization is key to successful development. To be ready for the future - in Switzerland as well - we need innovative solutions driven by the Kickstart Focus Area Smart City & Technology.

Today, 55% of the world's population lives in urban areas, a proportion that is expected to increase to 68% by 2050 (UN). In Switzerland, buildings consume around 50% of the overall energy and produce around a quarter of the country's CO2 emissions and the mobility sector consumes near 38% of the country's overall energy and produces about 39% of the CO2 emissions (SFOE).

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The Smart City Journey 2021 will feature a series of innovation events hosted by Smart City & Technology finalist startups and Swiss organizations in different locations across Switzerland.

Partners

- | | |
|---|----------|
| ● Axa | Global |
| ● Coop | Global |
| ● Migros | Global |
| ● Mobiliar | Global |
| ● Stadt Zürich | Vertical |
| Smart City Zürich, ewz, OIZ, VBZ, ERZ | |
| ● SFOE Swiss Federal Office of Energy | Vertical |
| ● Axpo | Fellow |
| ● CSEM | Fellow |
| ● Empa NEST | Fellow |
| ● Canton de Vaud | Fellow |

Technologies

- BIM (ewz, Aypo)
- IoT (ewz)
- LoraWAN (ewz)
- 5G
- Amazon Web Services
- Microsoft Azure
- Google Cloud
- IBM Cloud
- Artificial Intelligence (AI) (Aypo)
- Cognitive Intelligence
- Conversational Interfaces (Voice, Chatbots, etc)
- Machine Learning (ML)
- Augmented Reality (AR) / Virtual Reality (VR) (Aypo/Smart City Zürich)
- Big Data and Data Analytics (Aypo)
- Internet of Things (IoT)
- Sensors (Aypo)
- Robotics (Aypo)

Areas & Collaboration Opportunities

Digital Twins

Digital twins for regions, cities and buildings.

- Digitally represent all relevant systems (energy, transport, supply chains, IT)
- Scenario based stress tests for digital twins for System Risk Prevention

Digital Twins for Planning, Construction & Maintenance

- Building & Neighborhood Information Modelling (Multi-Sensor (also in harsh/deadly environment), IoT, Predictive Maintenance)
- Augmented Reality / Virtual Reality / Visualization
- Reality Capturing, also for hidden (underground) assets, measuring and assessment of existing infrastructure, use in planning tools
- Mixed Reality (VR forecast)

Digital Twins for Energy Production & Pricing

- Digital twins of the production process and plants with Sensors (IoT). For assets, predictive maintenance & performance, simulations of pricing and livelity.

Digital Twin 3D Building Platform

- A platform and an ecosystem to collect building data for 3D Digital Twins.
- Accompanying and supporting its customers in the constant process of renewal.

Digital Twin of Products

- End to end from production to consumer
- QR-Information-Code on the product

Future Mobility & Logistics

Prevention & Security

- Prevention E-Mobility: e-scooter in the cities, but also e-cars, e-bikes, etc
- Interior-Security for Public Transport users
- Count people in Public Transport

Smart Parking & Charging

- smart parking and charging solutions
- real-time demand forecast of public charging

Mobility Services

- Sustainable travel services for private individual mobility
- Total Cost of Ownership (TCO): Show the customer the costs of mobility quickly and easily or, if necessary, also make suggestions for optimization

Vehicle Pool Management

- Availabilities / Tracking / Statistics
- (predictive) Maintenance
- Electrification large public vehicle

City Mobility

- Mobility Management and control, predictive mobility flows
- Multimodal Mobility (on demand)

Platforms & Digital City Services

Citizen Participation and CivicTech

- tools and technologies for new form of citizen participation
- open government data, easy access to city services, IAM, Digital identity solutions

Data & Commercial Platforms

- Smart Community (Local concepts and supply)

- Customer Interaction Management: Self Service, Knowledge Sharing, Shift Left Ansatz
- Last Mile Platform

Sustainable Community Concepts

- Reuse and Share Platforms solutions
- Rent instead of buy (mobility / tools / sport equipment)
- Reusable systems for takeaways (city-wide system)
- Event waste concepts

Energy Platforms

- Grid-Solution (Smarter Building Controller. Linking House and Grid Monitoring, Mobility House)
- Smart Energy
- Decentralization
- Optimize

Smart Energy & Sustainability

Sustainable Energy

- Energy Trading & Origination
- Large Scale (Wind & PV, Battery & Hydrogen)
- Small Scale PV (Smart Energy)
- Hydrogen (Any specific solution)
- Storage
- Smart Grid Solutions

Carbon Capture & Usage

- Technologies and solutions for carbon capture, storage and usage

Circular Economy Materials & Products

- New sustainable Materials and fair Products (example FairTV, Headphones etc..)
- Re- & Upcycling Building Material Technologies and Solutions

Urban Climate Management

- Ways of cooling a City

Protect and Learn from Animals

- Biodiversity
- Animal Intelligence for forecasting natural disasters. Behavior of wildlife to be observed in order to detect natural risks