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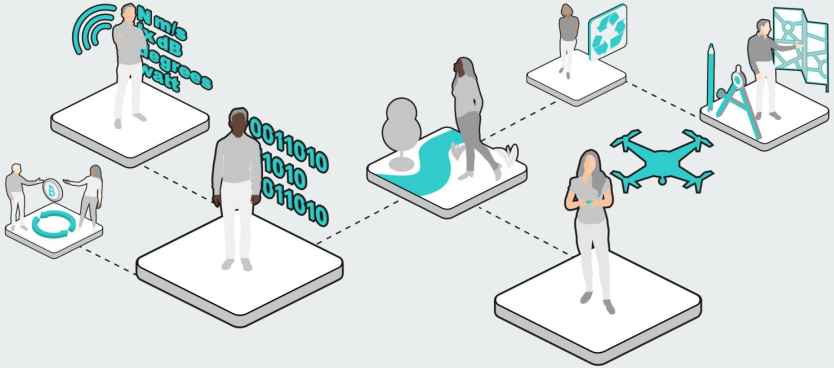
Future City Making With Smart Infrastructure

28 April 2022



About Tapp | Tom van Arman

Marineterrein: public test ground for future living and working environments

A city within a city

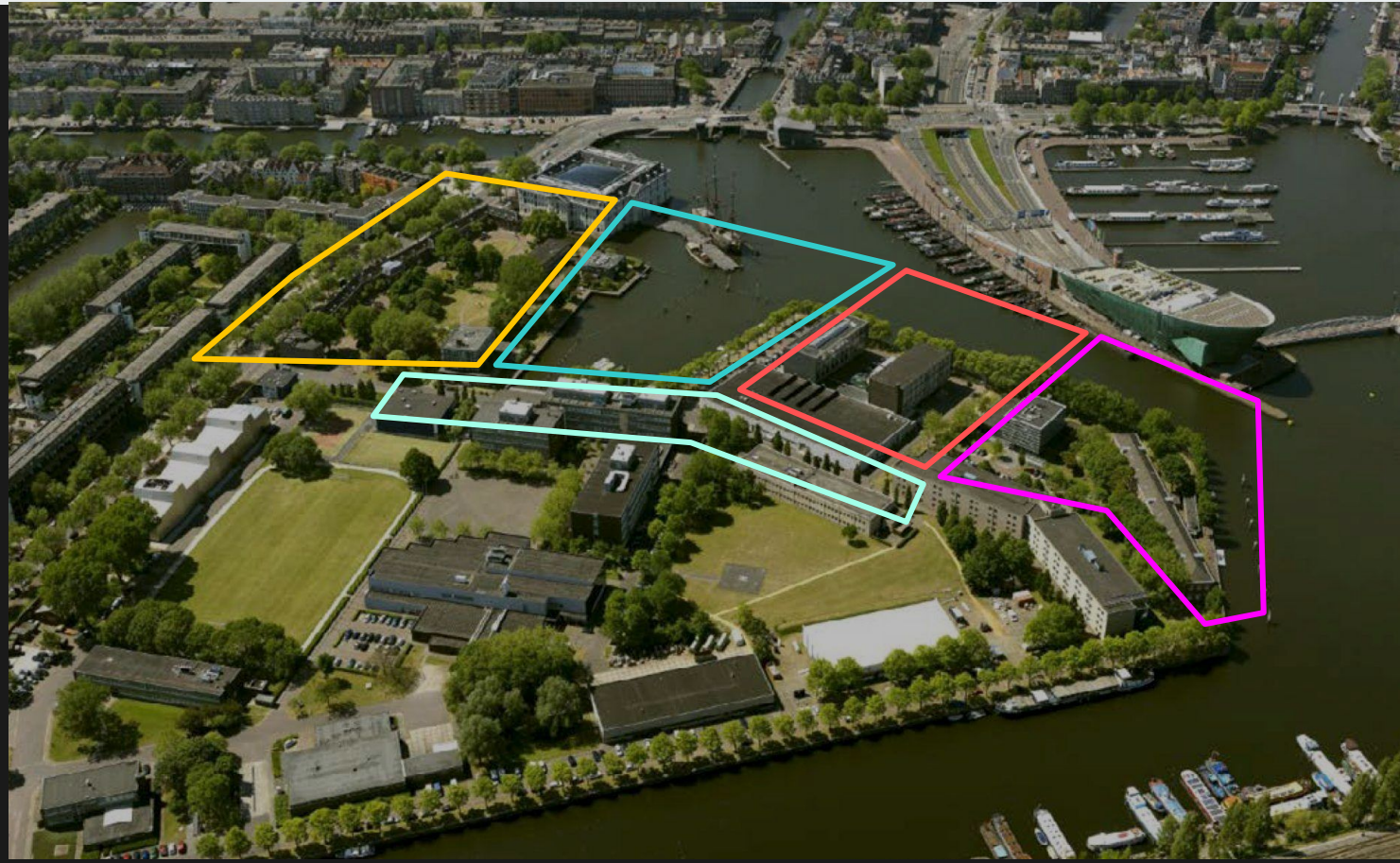
Public Park

Waterfront / Public Swimming

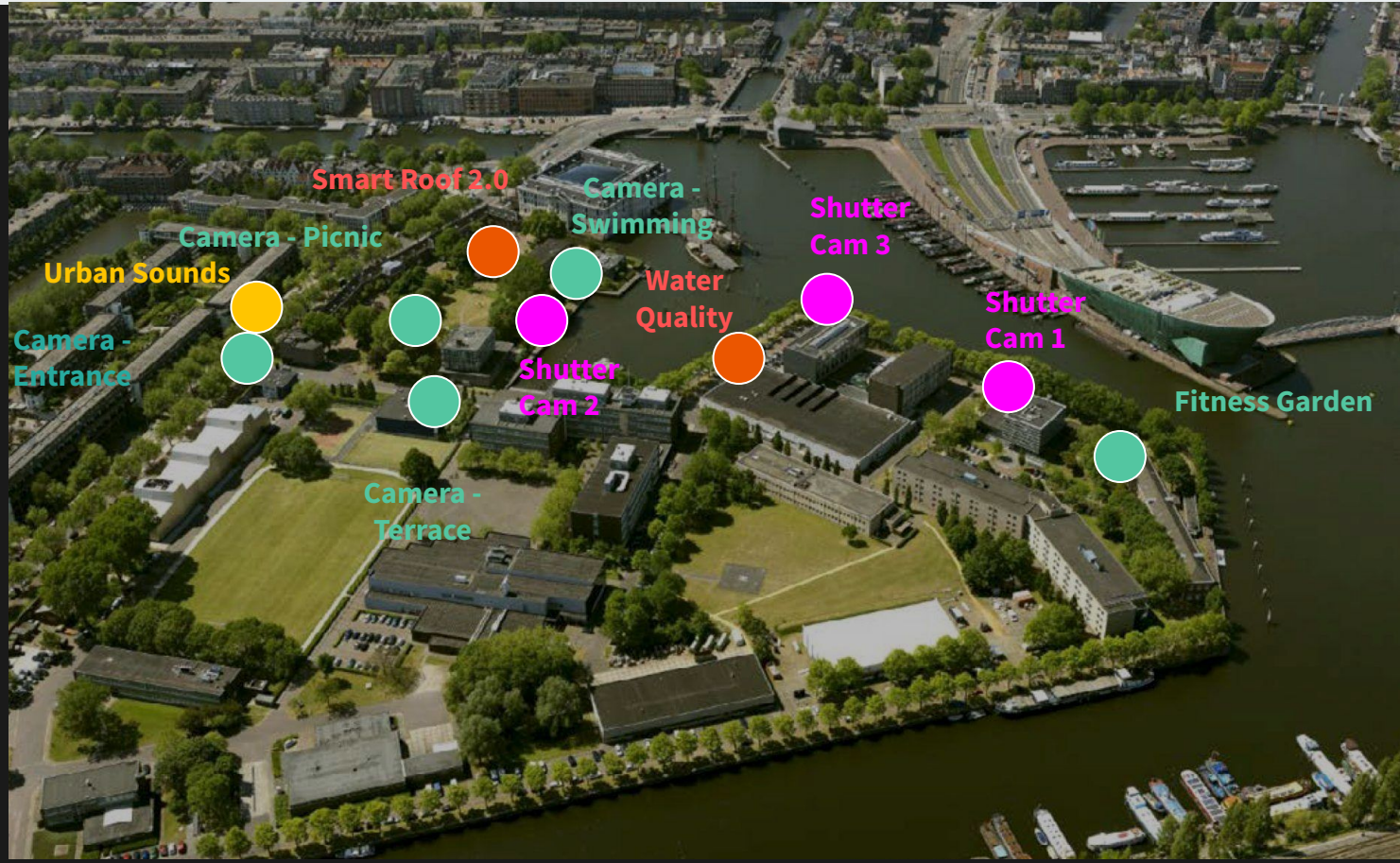
Business Park / Campus

Fitness / Recreation

Terraces / HORECA

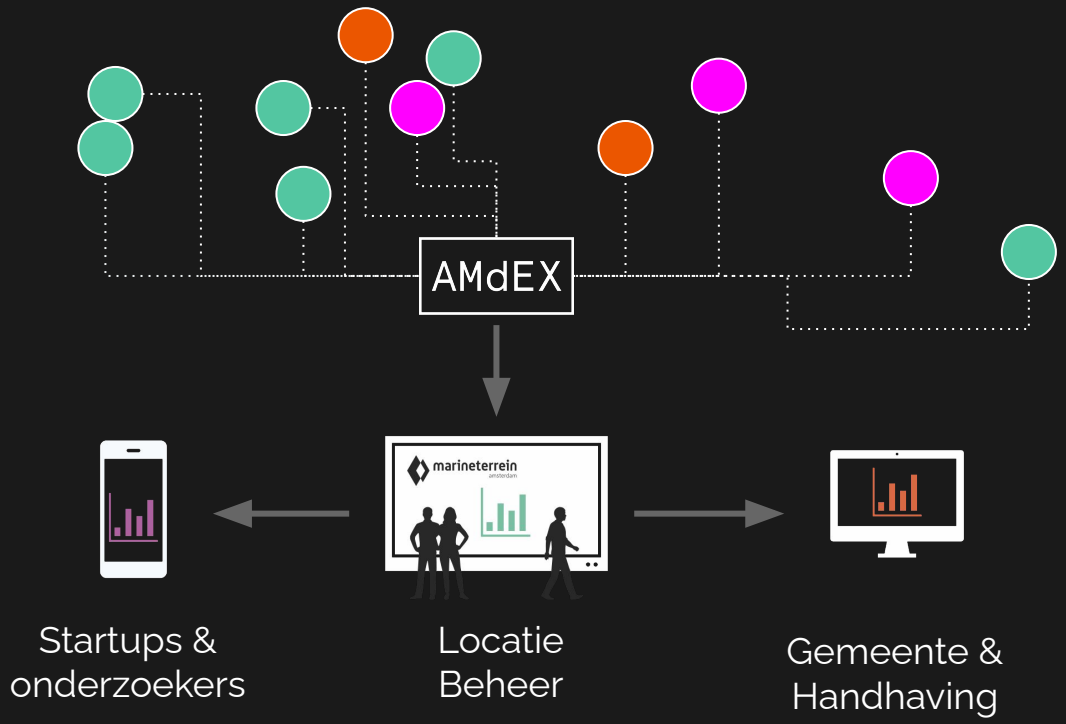


Smart infrastructure



- AI - Computer Vision
- AI - Deep Learning (sounds)
- AI - Predictive Modeling
- Digital Rights + Privacy

Data as a design tool



- Busyness Data
- Biodiversity Data
- Sport & Wellness Data

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Selected Projects - Future Mobility*

Public Eye

Public Eye is the world's first privacy-by design Crowd Monitoring system, helping municipalities gain actionable insights.

Autonomous Shuttle Analysis

With highly advanced AI, the impact analysis showed total number of cars, trucks, bike and pedestrians entering and exiting key areas

Bike Monitor

Using Computer Vision, we can count the number of bikes at key intersection.s. The data was used in a impact analysis for Amsterdam

*click on titles for more info

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Selected Projects - Smart Energy*

Post stuff for free

Smart Water Meter Lab

Using smart meters, occupants can see each other behaviors and help conserve water by sharing insights and gamifying habits.

iKringloop

iKringloop app makes re-use easier than ever by connecting neighbours, local charities and municipalities to your second hand stuff.

Smart Energy Hack

Teams of hackers developed many smart home and future energy solutions using an the API that connected to 180,000 Dutch homes.

*click on titles for more info

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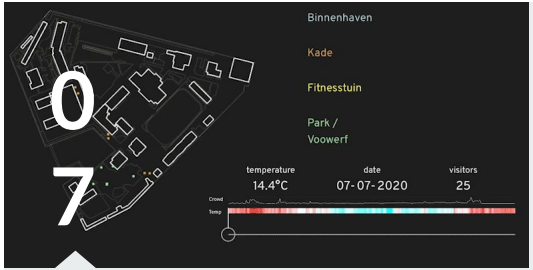
Selected Projects - Open Data*



Data Marineterrein Dashboard

On a mobile device, laptop or smart signs, users can access the historic and real time activities monitored in this living lab.

AMdEX - Urban Data

Giving users control over their own data AMdEX can share real time and historic urban insights as a secure & trusted exchange .

Digital Black Canvas

Point Cloud Scan and 3D animation revealing the invisible layers of the inner city innovation district's digital landscape.

*click on titles for more info

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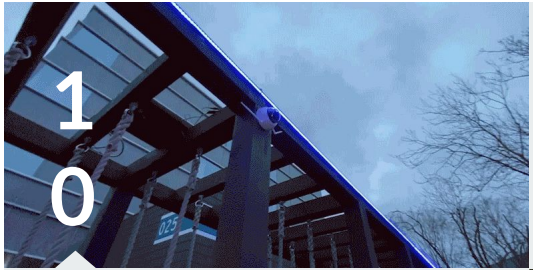
Selected Projects - **Urban Sensing***



ShutterCam - Privacy Monitor

How do people opt out of being monitored in public space? Insights vs Privacy - ShutterCam explores digital rights in public space.

Future Fitness Garden

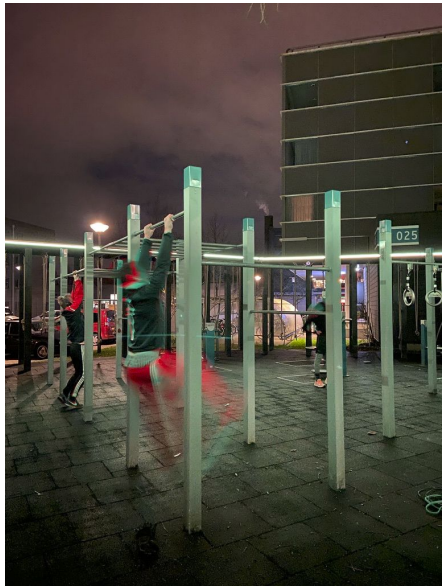
Using a AI, we count the number of people and moments users are within 1.5m of each other. Coupled with LED lights, users are reminded of distancing and safe capacity.

Responsible Sensing Toolkit

The Toolkit is a step-by-step guide to help municipalities and organizations safely and responsibility deploy sensors in public space

*click on titles for more info

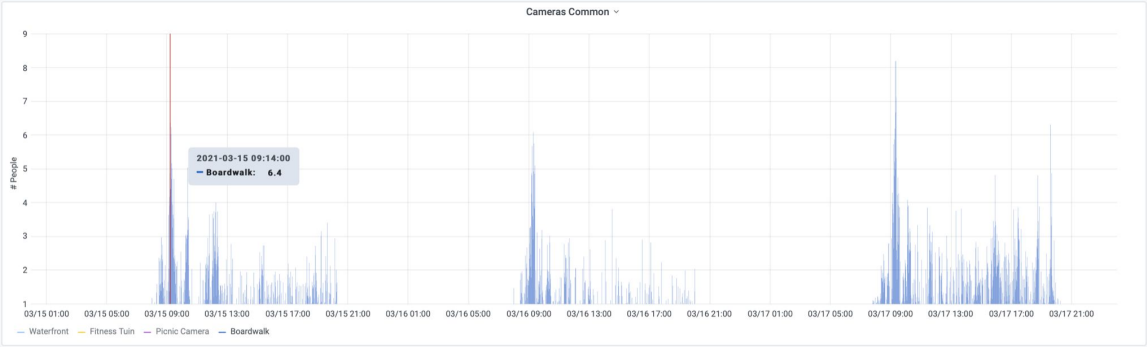
FUTURE FITNESS GARDEN



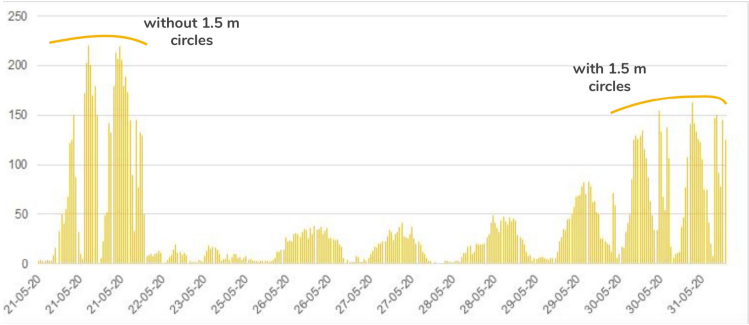
Using a AI, we count the number of people and moments users are within 1.5m of each other. Coupled with LED lights, users are reminded of distancing and safe capacity.

BOOSTING IMMUNE SYSTEM

When we isolate BOARDWALK crowd data during winter 2021 (3rd wave Corona in NL) we can count club members meeting to swim in frigid temps to increase their immune systems



PICNIC DROIDS



In the summer the Bureau Marineterrein used a happy little painting bot to create 1.5meter social distancing circles on park area along the waterfront to help visitors keep safe distances from one another. Thanks to their little green WALL-E (in time lapse) we begin to see what a post-Corona park looks like.

Top 4 tips for successful future proofing

Rapid Experimentation.

01

A lot of time and resources can be wasted over-thinking complex city solutions. Tapp uses an agile a ‘iterative approach’ to generate as much value to clients in the least amount of time.

Smart City Projects can often consume a lot of time and budgets which is why we Tapp works with clients to validate assumptions as soon as possible. Every experiment guides the client closer to the expected result (and budget).

Living Laboratories.

02

Seeing is believing. Whatever the stage of the project, its never too early to test real projects with real people, in real places. Tapp helps you design urban test zones to accelerate development process.

Deploying solutions into the build environment can give projects legitimacy and provide vital user feedback. The many regulatory consideration, legal headaches, and spatial constraints can often be avoided - ensure your project is ready for the real world.

Responsible Urban Tech.

03

Smart cities technology can be invasive which is why Tapp provides key insights based latest cyber security standard, hyper transparency, privacy and digital rights to create a more fair and just future city

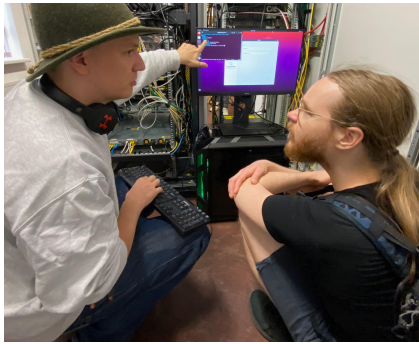
01 | ISO 27001 Standards

02 | Open Data API's

03 | Open Source Code

04 | GDPR and Data Processing Agreements

05 | Device & Sensor registration

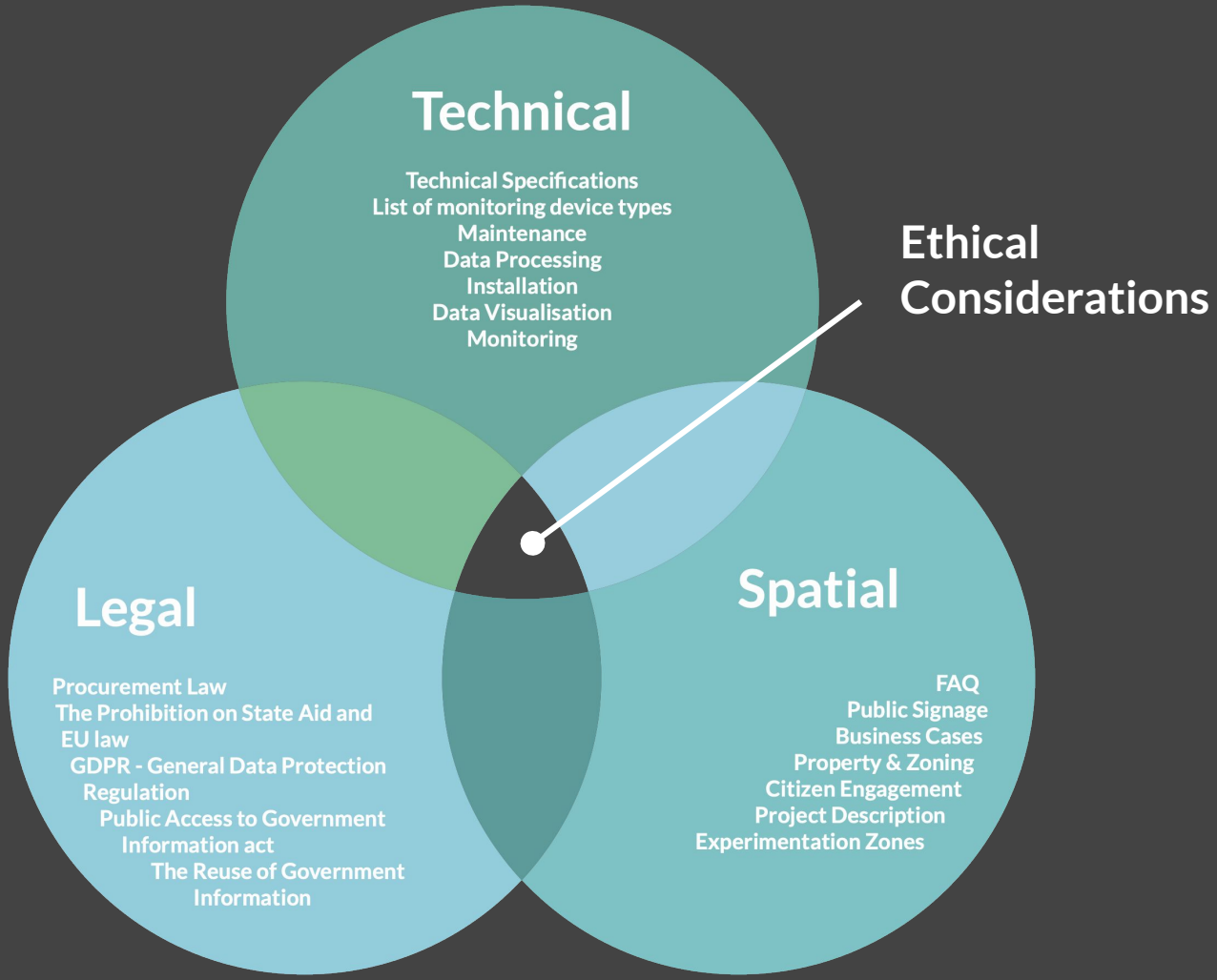


Participatory Design.

04

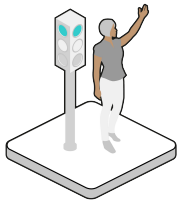
Many smart city projects fail due to public objection. Tapp projects are all designed to be citizen centric and privacy by design to ensure support and scalability.

By incorporating a diverse group of stakeholders from the beginning of the project will help it avoid fallout. Participatory design processes generates awareness and support from interest groups to ensure quick adoption and market fit.

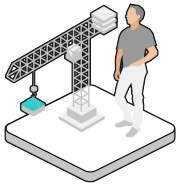

Technical
Technical Specifications
List of monitoring device types
Maintenance
Data Processing
Installation
Data Visualisation
Monitoring
Ethical Considerations
Legal
Procurement Law
The Prohibition on State Aid and EU law
GDPR - General Data Protection Regulation
Public Access to Government Information act
The Reuse of Government Information
Spatial
FAQ
Public Signage
Business Cases
Property & Zoning
Citizen Engagement
Project Description
Experimentation Zones

Future city makers

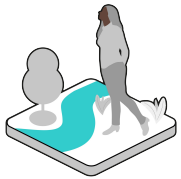
Thought Leaders



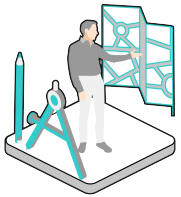
Transportation Authority



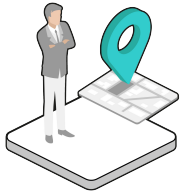
Engineer



Landscape Architect



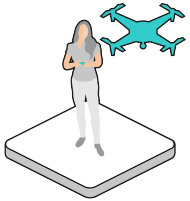
Architect



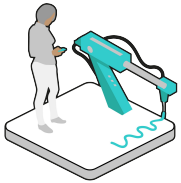
Zoning Administrator

Urban Designer

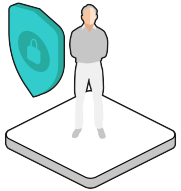
Future City Makers



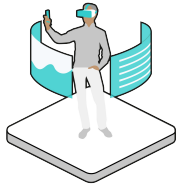
Drone Pilot



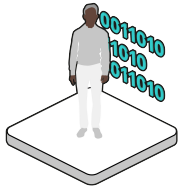
3D Print Operator



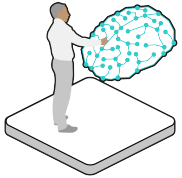
Digital Transparency Advocate



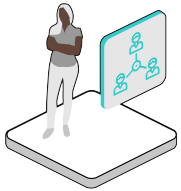
AR / VR Designer



Data collector & curator



AI developer

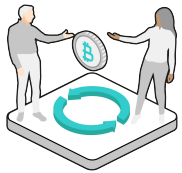


Social Scientist

Life Cycle Architect

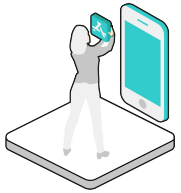
Storyteller & Visual Artist

Supply Chain Engineer

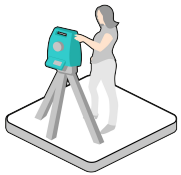


Share Economy Strategist

IoT Steward



App developer



3D scanner & LIDAR operator

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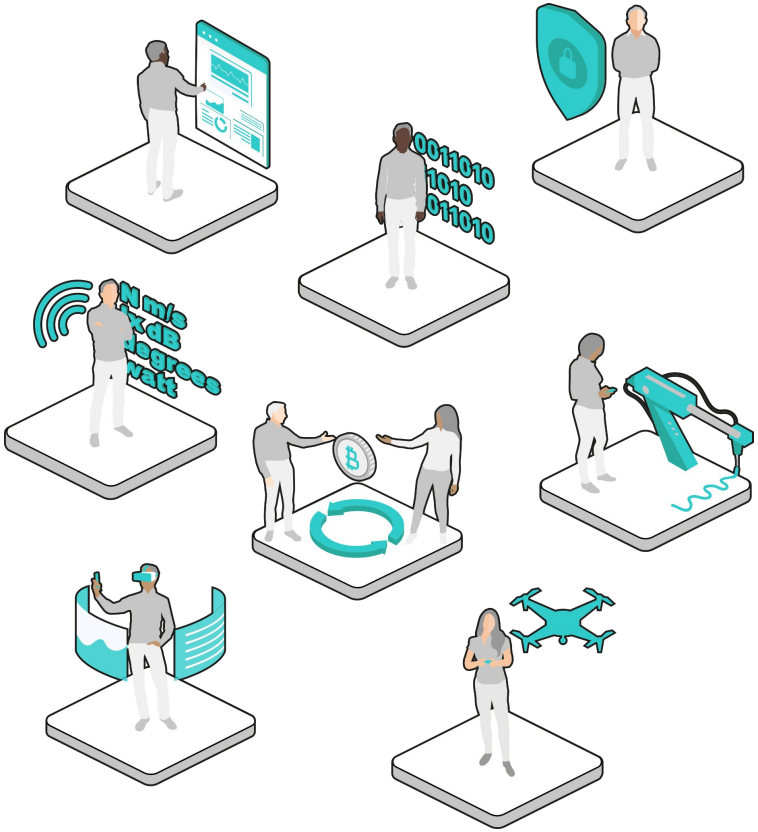
What kind of City Maker are you?



Tapp works on the operational edge by working with ‘multi-disciplinary’ teams of designers, civic hackers, researchers.

Working with experts like drone pilots, 3D print operators, data scientists, AR/VR developers, social scientists, life cycle architects we build the blueprints of future living environments.

Founder | Director

Tom van Arman

Tom van Arman is an American / Dutch Smart City Architect based in the city of Amsterdam. As an urban planner and technologist, Tom uses IoT, AI, API's and open data to as a design tool to create more livable and inclusive cities. In 2010 he founded Tapp, an award winning smart city design agency enabling local governments and industries to bridge the gap between the built environment and new digital landscape.