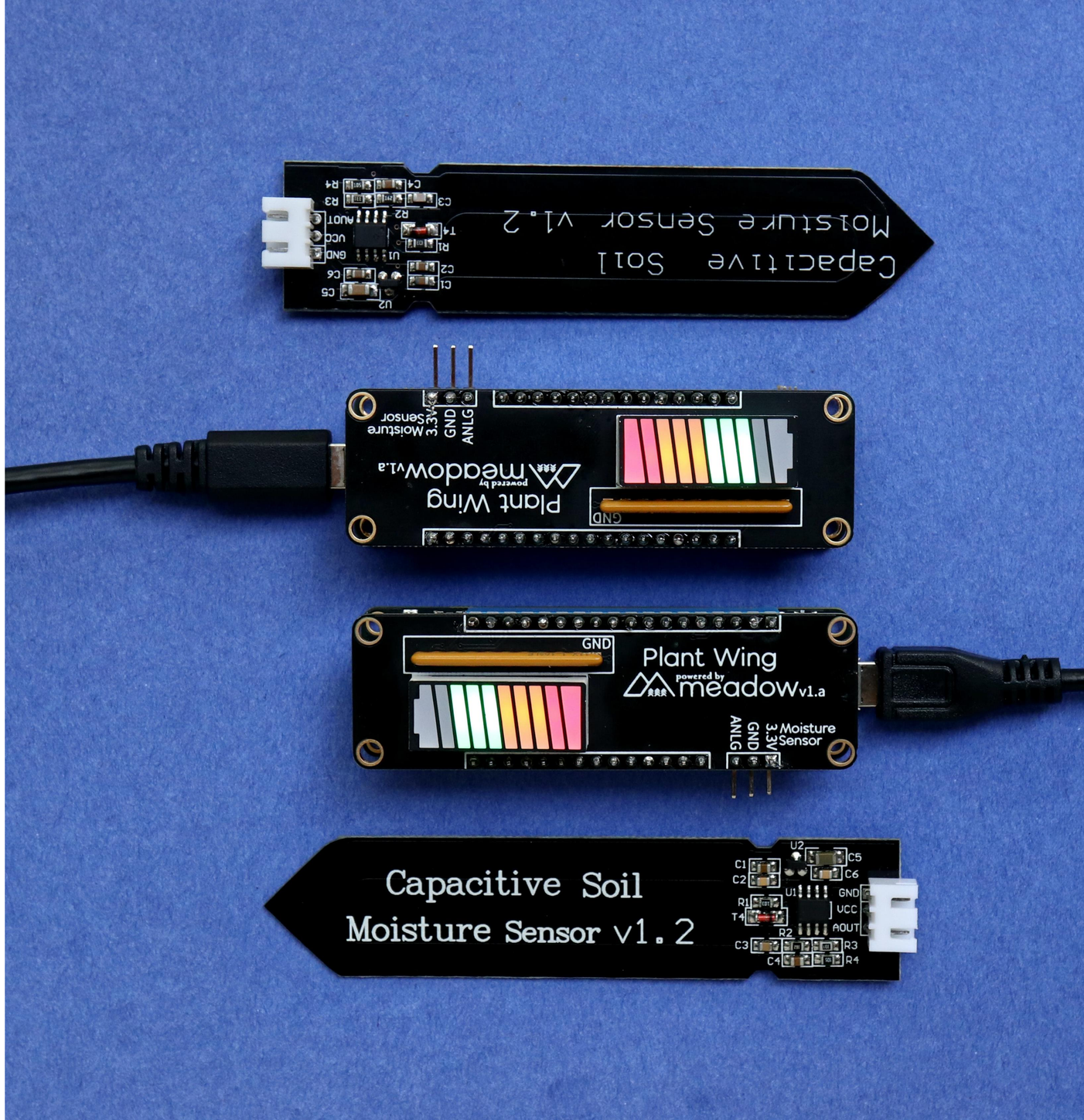
IoTxChange

Integrated Action Plan

Smart municipality/
IoT development plan for
Jelgava Local Municipality
2022 - 2032

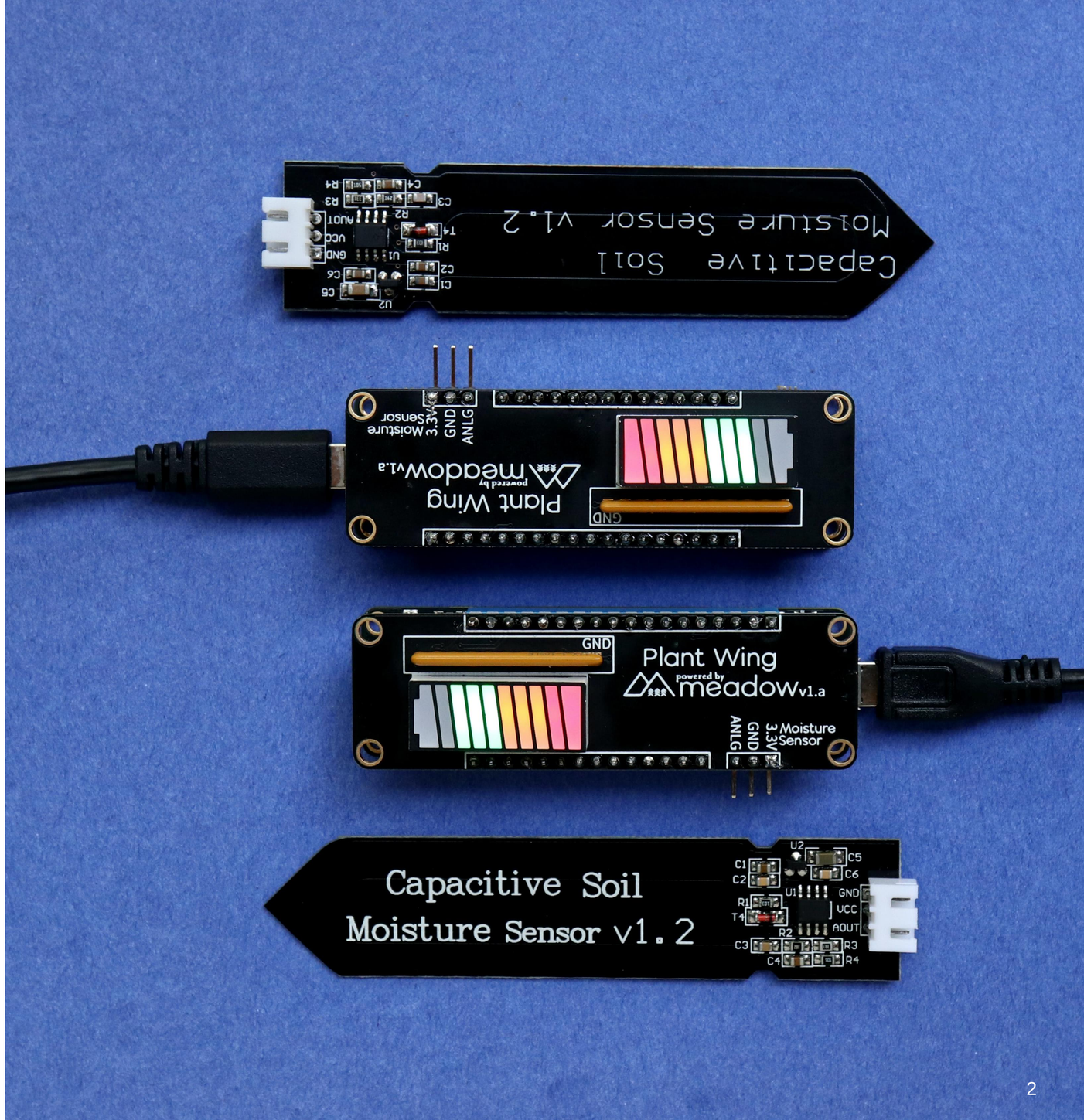


About the project

Internet of Things as a policy instrument for the Municipality change. It encourages the creation of a network of European partners committed to the design of digitalisation plans based on Internet of Things (IoT) solutions to increase the quality of life in small and medium sized EU municipalities.

URBACT methodology based on transnational cooperation between municipalities and engagement of local groups offer to our network of 8 municipalities the conditions to each develop an Integrated Action Plan that will guide us through a new age of digital transformation.

https://urbact.eu/iotxchange
(https://urbact.eu/)



Purpose of this action plan

This action plan serves a purpose of an active working document, presentation for new partners, a one-stop-shop for working methods, tools, stakeholder contacts, and more. It is a place for continuous improvement with every gained feedback.

Do not stop at the first failures but embrace the beauty of unknown!

Project team and ULG members

Core project team

Ilze Vītola
Vice Chairman of Jelgava Local Municipality

Anita Škutāne
Project Lead

Gatis Kasparinskis
Project assistant

Māris Žoids
IT specialist

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Service Design & Strategy expert

Viesturs Celmiņš
Urban planning & Strategy expert

ULG members

Guntars Krasovskis
Līga Švānberga
Linda Ermiča
Dainis Keidāns
Sandra Kalvāne
Inese Cinovska
Jana Brāle
Lolita Krūmiņa
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Nikolajs Būmanis
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Anastasija Bizjajeva
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Kristaps Veidemanis
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Agnese Zviedrāne
Edgars Jumītis
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Svetlana Aņiskeviča
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Ainis Lagzdiņš
Dina Tauriņa
Inese Tarvida
Ginta Avotiņa
Kristaps Makbets
Oskars Cīrulis
Rita Borščevska
Līga Rozenbaha
Simona Saule-Salkazanova
Jānis Erno
Dzintars Cāzers
Andris Vīksna
Ieva Iesalniece
Arnis Burmistris
Līga Lonerte
Inese Baumane
Alvils Pierhurovičs
Beāta Cirmane
Kārlis Kindzulis

Project methodology

The project development process was structured around ULG member group work and individual interviews both online and physical format. Very first workshops were held in person however, with upcoming Covid19 restrictions work was mainly facilitated in online format.

A backbone for the project was based on the service design framework dividing whole project in four major phases - Discovery, Define, Design and Delivery phase. Every phase includes co-creation sessions with ULG members, feedback sessions with core team members and reports to the other project partners.

Main findings from ULG member input was structured and analysed, prioritising the most crucial and beneficial development areas. External expert input in this project was used to guide and facilitate the progress, keep the schedule on track and prepare presentable deliveries for every project phase.

“ We are very glad to work with industry professionals from public and private sectors in order to co-create the future value for Jelgava Local Municipality. Main content was already in professional heads, we just had to gather and structure the information in order to build a very practical Action Plan suited for the Municipality needs.”

Rudolfs Strelis, Service Design expert

Project Goal

“Jelgava Local Municipality sees value in nurturing technology research, testing and implementation in order to increase life quality for citizens and optimise public service operations.

IoT action plan will focus on technology education, connected systems and knowledge transfer through cross-industry collaboration.”

Ilze Vītola
Vice Chairman of Jelgava Local Municipality
2022

About Jelgava Local Municipality

http://www.jelgavasnovads.lv/lv/

Population: **33 686**
Size: **1600 km2**
Forests: **484 km²** (30,21%)
Agricultural land: **889 km²** (55,55%)

Jelgava Local Municipality consists of 16 parishes: Cenas, Eleja, Glūda, Jaunsvirlauka, Kalnciems, Lielplatone, Līvbērze, Platone, Salgale, Ozolnieki, Sesava, Svēte, Valgunde, Vilce, Vircava and Zaļenieki parishes. Each parish is divided into rural areas and villages.

Forestry and wood processing companies are developing in the municipality. Jelgava Local Municipality is a typical agricultural region. The good quality of the soil, its location and climate allow it to engage in all types of agricultural sectors. In summer, rich grain harvests enter the countryside, which is why this place is called the "bread barn" of Latvia.

There are large crop, livestock and dairy farms, enterprising fruit and vegetable growers, and domestic food producers of various specializations.
In Jelgava Local Municipality, the fields of crafts are becoming more and more popular - woodworking, various handicrafts, food crafts.

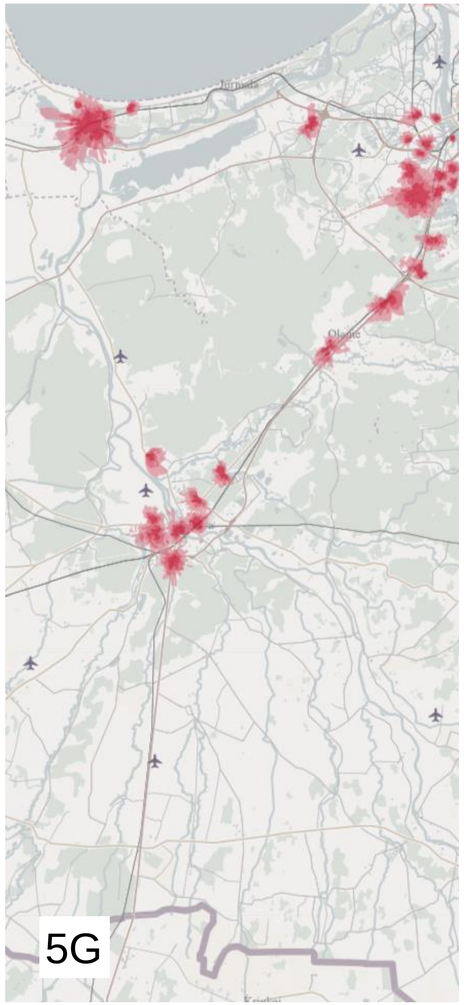
IoT & Network readiness

The Internet of Things (IoT) describes the network of physical objects—“things”—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet. These devices range from ordinary household objects to sophisticated industrial tools.

Current network coverage presents strong 4G network with already expanding 5G network. There are areas of improvement therefore close collaboration with local Telcos will be necessary. Communication operators point out that municipal territory has a strong NB-IoT and LTE-M network coverage.

https://karte.lmt.lv/#3G

https://karte.lmt.lv/#4G



https://karte.lmt.lv/#5G

https://www.lvrtc.lv/wp-content/uploads/2020/12/platjosla_pieslegumi.pdf

Definition source: https://www.oracle.com/internet-of-things/what-is-iot/

Municipal corporate network infrastructure

- Jelgava Local Municipality stands for central management of most information technology processes, so it is necessary to use VPN tunnels to connect its authorities

- Centralized management of network equipment is achieved using a variety of tools

- Every institution has the best possible internet connection at the moment, and they are constantly being improved. Internet connections vary from 4G, VDSL to Radio Link and Optic Fiber

Integrated Action Plan (IAP) intro

Further content of the Integrated Action Plan is divided into three development areas: Digital Skills & Education, Connected IoT systems, Co-creation & collaboration. The main content is derived from the ULG member workshops and interviews and fully represents the most challenging areas to work with to strengthen the IoT ecosystem in Jelgava Local Municipality.

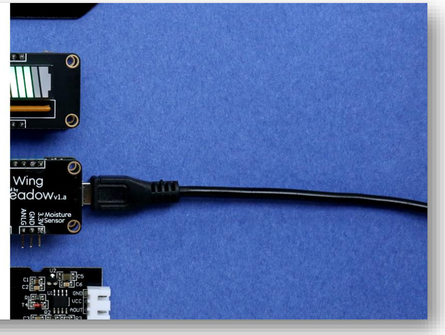
Each area is further broken down into problem definition, impact areas with KPIs, action plan itself, and main risk analysis with high-level suggestions. Action plan activities are mostly divided into short-term pilot projects and full-scale longer-term projects. All activities will be mainly funded by EU funds (such as Horizon, Urbact, LIFE, etc.) and the Jelgava Local Municipality budget and available resources.

It is recommended to develop these following areas simultaneously in agile iterations instead of sequentially one by another. This approach will ensure a more integrated and inclusive way of IoT environment development and strengthening in Jelgava Local Municipality.

1st development area

Digital Skills & Education

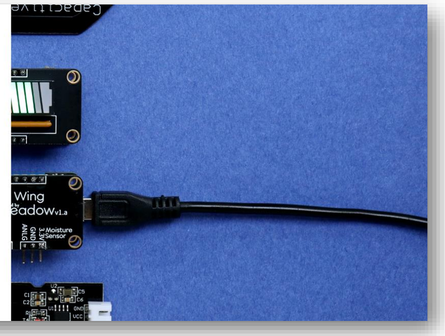
A foundation block for further technology development



2nd development area

Connected IoT systems

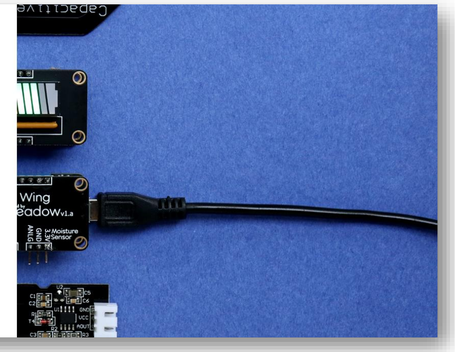
Invisible part of the technology iceberg



3rd development area

Co-creation & collaboration

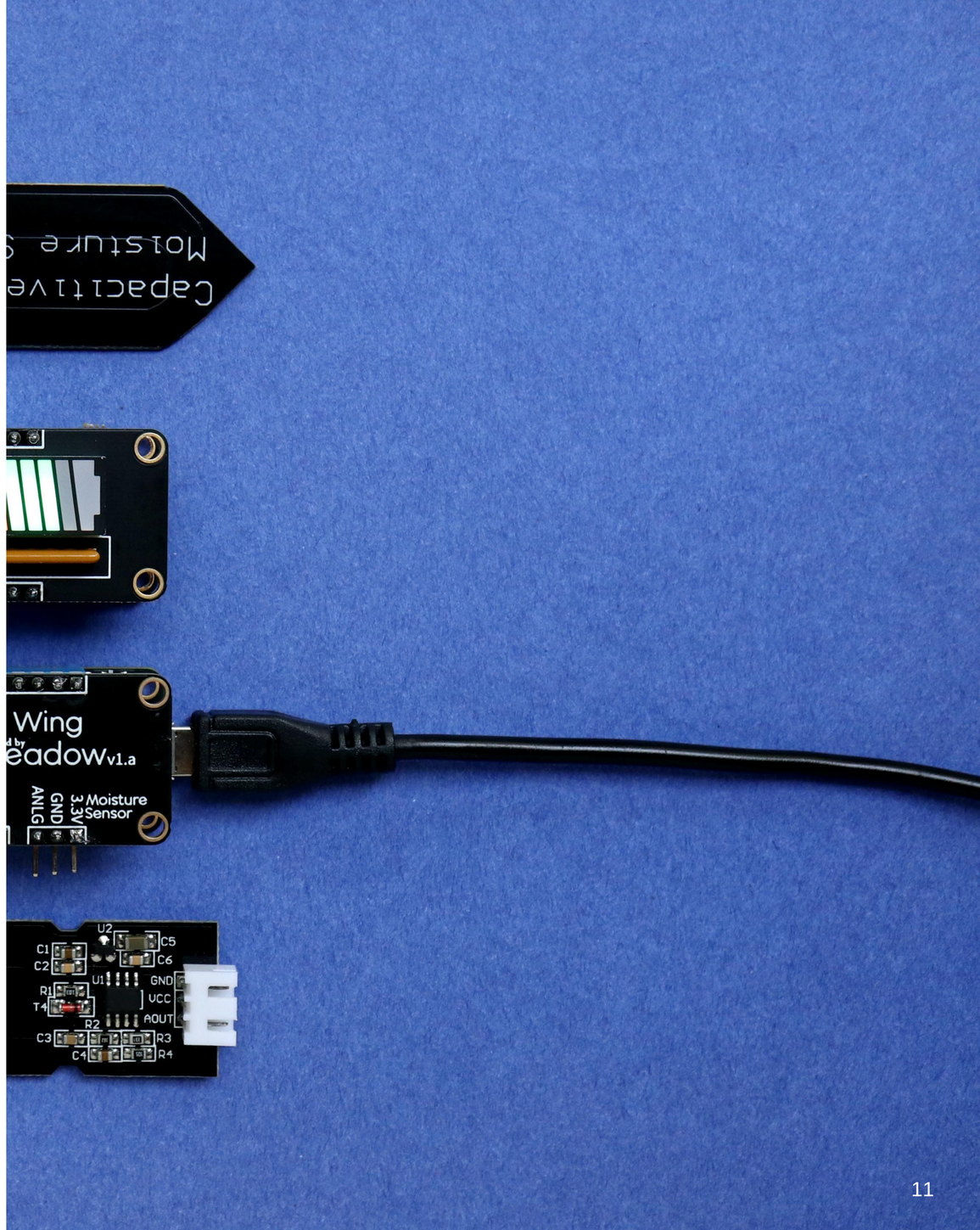
Experience, Learn & Scale your ideas!



1st development area

Digital Skills & Education

A foundation block for further technology development



From simple language skills to latest technology news and specialised industry education. To truly enable value from IoT technologies we must take an action towards well educated stakeholders.

How might we design inclusive educational programs to deliver digital skills & knowledge in various social groups?

Objective To increase the knowledge about IoT systems and need for digital transformation amongst various stakeholder groups

Impact zones	**Key results** (KPI's)
Municipality specialists	**Municipality officers are proficient in helping various stakeholder groups to solve their IoT related challenges.**
Individual industry specialists	**20-50 entrepreneurs and specialists from private and public sector enrolled annually.**
Businesses	**Local businesses has clear procedure on how to get support from Municipality in order to connect with other professionals and share industry know-how; Up to 10 companies annually served from Municipality side.**
Students	**Students in various public education levels are aware of IoT technology general concept.**
Seniors	**First year goal to enrol up to 100 seniors to the digital readiness education program.**

1.3. Action plan

Digital Skills & Education

Action	Intended result	Resources / assets	Lead Agency / Parner agent	Key partners	Timescale & Budget
1. Digital skills training for Municipality officers	**Municipality officers** are proficient in helping various stakeholder groups to solve their IoT related challenges. They are fully aware of the IoT value for the region and can execute new EU projects in IoT innovation field with confidence.	Location for physical curses and / or online course mgmt opportunities	Jelgava Local Municipality **Development Department** **Education Unit**	**Content partners:** • LMT • Accenture • Riga Tech Girls	**Small scale pilot** Time: 2023 Q3-Q4 *Cost: 4 000 euro* **Full scale in all departments:** Time: 2024 Q1 *Cost: 20 000 euro*
2. Tailored English classes for industry specialists	An English course focusing on specific IoT language blocks is developed. 20-50 entrepreneurs and specialists from private and public sector enrolled annually. Feedback from users gathered for further improvements.	Support for physical location in case of in-person courses	Jelgava Local Municipality **Development Department** **Education Unit**	**Content partners:** • English language teaching centres **Scaled project partner:** • Jelgava City Council	**Small scale pilot** Time: 2024 Q2; Q3 *Cost: 2000 euro* **Full scale project** Time: 2024 - 2025 *Cost: 15 000 euro*
3. Course "IoT opportunities for Circular Economy"	**Local businesses** has clear procedure on how to get support from Municipality in order to: - connect with other professionals and share industry know-how; - get support in basic education (english language, other digital skills) - partner with academic sector to share industry knowledge with students and researchers;	Support for physical location in case of in-person courses	Jelgava Local Municipality **Development Department** **Education Unit**	**Content partners:** • VARAM • https://ellenmacarthurfoundation.org/	**Small scale pilot:** 2024 - Q1 *5000 euro* **Full scale project version** 2025 Q1-Q3 *20 000 - 30 000 euro*
4. Joint program focusing on IoT system development and management	**Learners** in various public education levels are aware of IoT technology general concept; - Students are able to generate ideas how to implement technology to solve various problems. - At least one new joint program will be emerged involving more than one school and industry partnership;	Municipality schools	Jelgava Local Municipality **Development Department** **Education Unit**	**LLU university** **Jelgava City** **Riga Technical University**	**Time: 2025-2027** *Cost: 20 000 euro*
5. IoT classes and digital education program for seniors	**Seniors** in Jelgava Local Municipality get access to free education program with the aim to be confident in using public sector services in digital platforms. First year goal to enrol 100 seniors to this program.	Support for physical location in case of in-person courses	Jelgava Local Municipality **Development Department** **Education Unit**	**Industry partner:** LMT, TET **Local project partner:** Jelgava City	**2023 - 2025** *Cost: 5 000 euro*

1.4 Potential risks without development in this area

- User attraction & engagement;
- New user reach and onboarding might be difficult;
- Professionals might not be willing to share industry knowledge and spend valuable time for education purposes;
- Overall lack of interest amongst citizens;
- Other priorities in existing educational programs. Potentially challenging to infuse existing programs with IoT related information;
- Too many ideas might loose focus on priorities;
- Public procurement process might decrease educational quality and affect long-term vision;
- Lack of staff and human resources for any educational purpose;
- Ability to understand technology trends and content for existing teachers in public schools might be low.

1.5. Recommendations

- There is a primary need to understand the level of citizen digital skills and create awareness of the IoT topic in various target audiences.
- There are various levels and forms for tech-education. Starting from kindergarten up to senior education programs. IoT area can be a complex digital transformation process where various stakeholder groups must be involved equally to ensure successful results.
- Designing any tech-related education program it is crucial to use user-centred approach and understand different technology needs for different social groups.
- There is overall interest and engagement in our working group to embrace, test and implement various digital technology related education formats.

1.6. Target groups and additional ideas

ULG Co-created ideas for Tech-education and awareness

Learners

- Data safety & security classes for primary school students;
- Scientific projects related to IoT topic in high-schools;
- Primary school individual project week;
- Intro course "What is technology" 6-9 grade students
- Tech-courses for teachers;
- Joint programs with other universities (LLU / Other?) "IoT school"
- Math & physics programs could include examples from IoT technologies;
- Additional courses and collaboration with industry specialists;

Municipality employees

- Digital skills for Municipality officers;
- Employee education on resource optimisation, circular economy principles, IoT benefits;
- Video tutorials made by Municipality with a purpose to have clear understanding on how to use Public services; "Digital Consultants"
- Municipality supported IoT for social workers and underserved community segments (health trackers etc.)

Industry specialists

- Course "IoT opportunities for Circular Economy"
- Municipality facilitated and industry supported Technology & Education centre;
- Specialised English classes for specialists;
- "Smart business in Jelgava Local Municipality" - course
- Industry + Public sector discussions & seminars;
- Exchange programs to other companies & countries;
- Practical workshops /design sprints "From a challenge to solution"

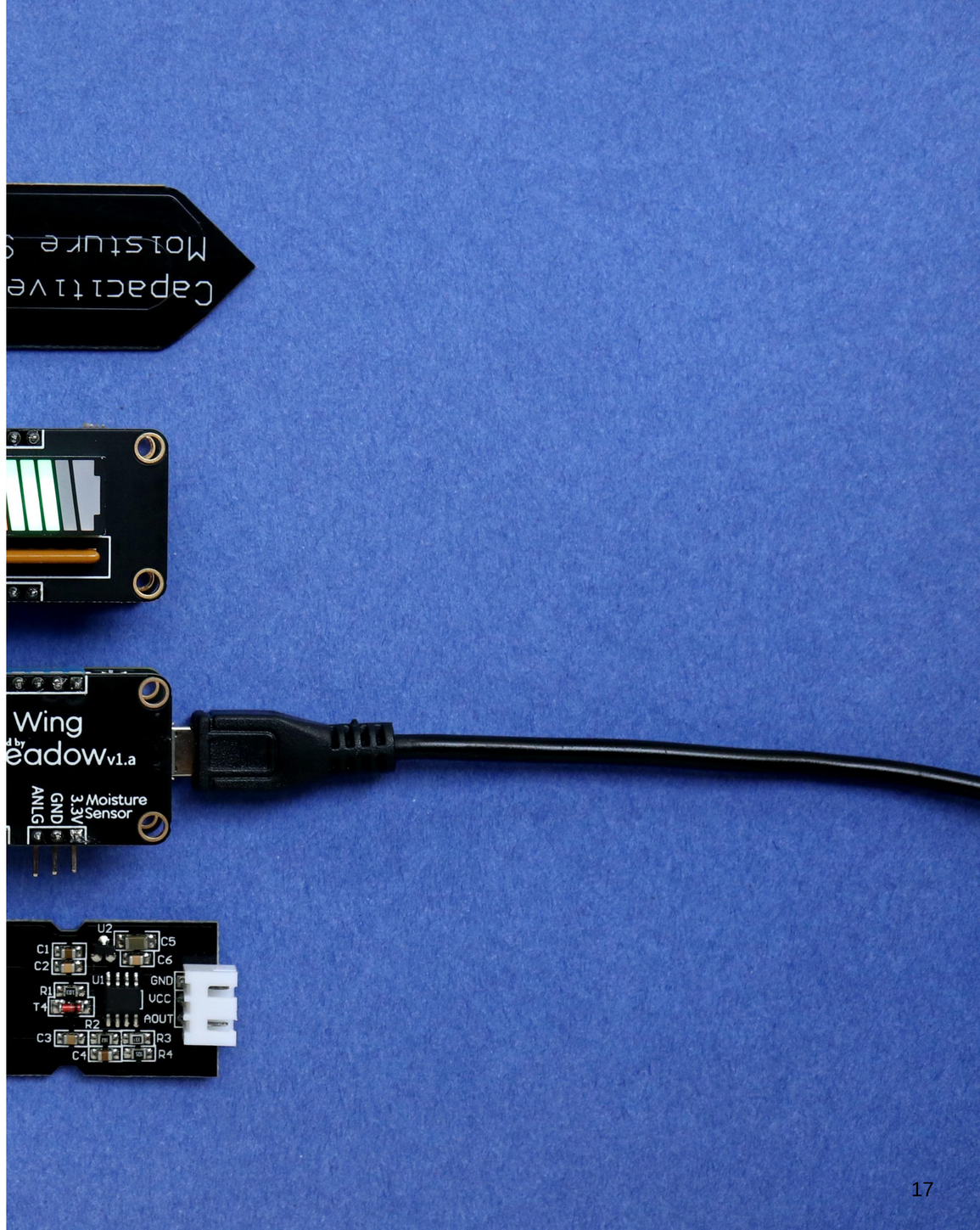
Citizens & seniors

- Informal Tech Education for seniors;
- Digital skills education for audience 40+ with the purpose to increase digital public service users;
- E-week, opportunity to gain digital skills for unemployed segment;
- IoT trends and news from technology world - how IoT tech can make senior life more enjoyable?

2nd development area

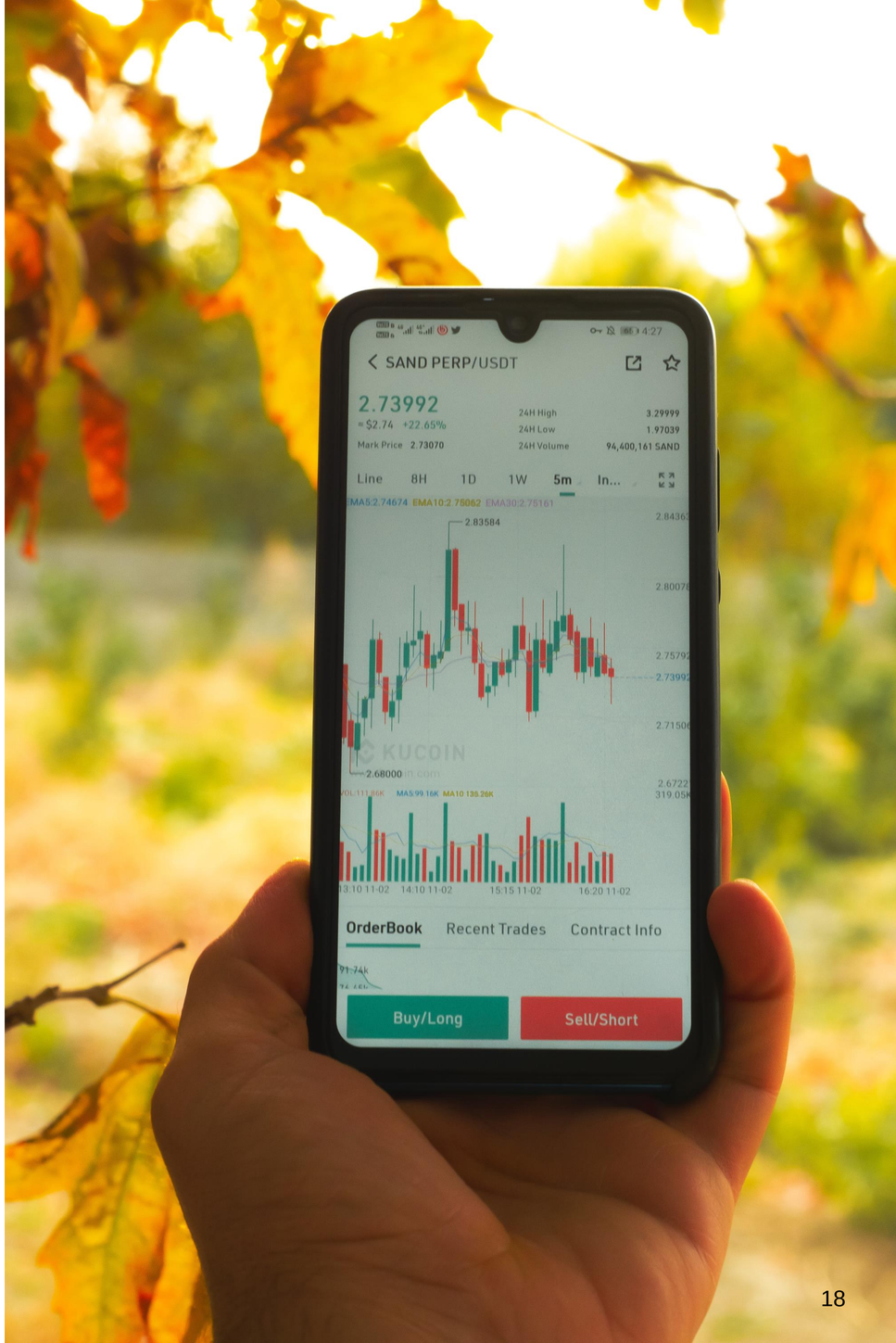
Connected IoT systems

Invisible part of the technology iceberg



Without connectivity, interoperability and accessible data we would have individually functioning technologies with no added value from their produced data.

How might we ensure physical and regulatory environment will support sustainable and accessible technology development, testing and implementation?



Objective To support and execute IoT tests from infrastructure and data management to hardware and software fostering connected and sustainable IoT system development.

Impact zones	**Key results** (KPI's)
IoT Data management	**Developed IT architecture for centralised storing and managing IoT data from systems in Municipality and Jelgava City. Added value actions in designing data marketplace ecosystem.**
IoT Pilot projects (small & full scale)	**1-2 IoT pilot projects executed annually covering some of the Smart City mediums. Every 3-5 years at least 1-2 full scale projects would be executed.**
IoT infrastructure support	**IoT test areas are established around municipality and city. Publicly available guidelines for connected system deployment are accessible for everyone.**

2.3 Action plan

Connected IoT Systems

Action	Intended result	Resources / assets	Lead Agency	Key partners	Timescale & Budget
1.Developed video monitoring guidelines	A set of rules are designed to sync video monitoring system implementation and usage amongst various stakeholders, technology vendors, service providers.	IT specialists from JLM and POIC	Jelgava Local Municipality **Development Department** **IT Department**	Jelgava City POIC Municipal police	Time: **2023** Q3-Q4 *Cost: 3000 euro*
2.Data storage and management workshop series	Developed IT architecture for storing and managing IoT data from Municipality and Jelgava City.	IT specialists from JLM and POIC	Jelgava Local Municipality **IT Department**	Jelgava City	**Time: 2024** Q3-Q4 *Cost: 5000 euro for moderated design sprint*
3.IoT "Green zone" in the municipality	A specific intended zone is devoted for IoT testing.	Physical location provided by Jelgava Local Municipality	Jelgava Local Municipality **Development Department**	Ministry of Environmental Protection and Regional Development	Time: 2026 Q2 **Supported by EIT Mobility** *Cost: 17000 euro*
4.Data marketplace prototyping, testing and development	A platform for IoT data is developed to store and deliver data from IoT projects in JLM and Jelgava City	POIC existing infrastructure	Jelgava Local Municipality **IT Department**	JLM, POIC, LLU	Time: 2025 **Funded from EU Horizon project** *Cost: 170 000 euro*
5.Air quality monitoring project	One or several public schools are equipped with air quality monitoring sensors in order to understand C02 patterns in school	Municipality real estate can provide testing infrastructure.	Jelgava Local Municipality **Education Department**	Aranet LMT Local schools	**Time: 2024, Q2 - Q4** *Cost: 85 000 euro*
6. Smart waste pickup system	A specific neighbourhood is equipped with trash bin sensors to test on demand pick-up system.	Existing waste management partner infrastructure and resources for small scale pilot project	Jelgava Local Municipality	Local waste management company Jelgava City	Time: 2024 Q2 **Small scale pilot project** *Cost: 40000 euro* Time: 2025 **Scaled pilot project** *Cost: 250 0000 euro*
7.Road quality monitoring	In a collaboration with Latvian state Road association multiple sensors could be installed in major highways to monitor their conditions	IT specialists from JLM and Jelgava City	Jelgava Local Municipality **Real Estate Department**	**Strategic partners** Latvian state roads **Local partners:** Jelgava City	Time: **2026** *Cost: 130 000 euro*
8. Renewable energy pilot projects Jelgava Local Municipality	Municipality supports creation of new renewable energy projects with centralised IoT tech supported data management systems.	IT specialists from JLM and Jelgava City	Jelgava Local Municipality **Development Department** **Real Estate Department**	**Strategic partners** Laflora	Time: **2030 - 2035** **Funded from EU Horizon project** *Cost:* *400 000 - 700 000 euro*

2.4 Potential risks in this area

- Existing public procurement process can minimise Opportunities for small scale action projects;
- Public sector service providers might not be willing to invest in digital transformation projects;
- Political changes in municipality shifts strategic focus minimising focus on IoT related projects;
- IoT projects are not developing because of lacking available IT specialists;
- Too many ideas might loose focus on priorities. There need to be a clear strategy in place and strong leadership for executing the strategy;
- Lack of research can create biased problem areas without any added value for municipality or citizens;
- Lack of financial support might decrease economic viability for a specific project. Various alternative financing mechanisms need to be planned before scaling any successful small scale project.

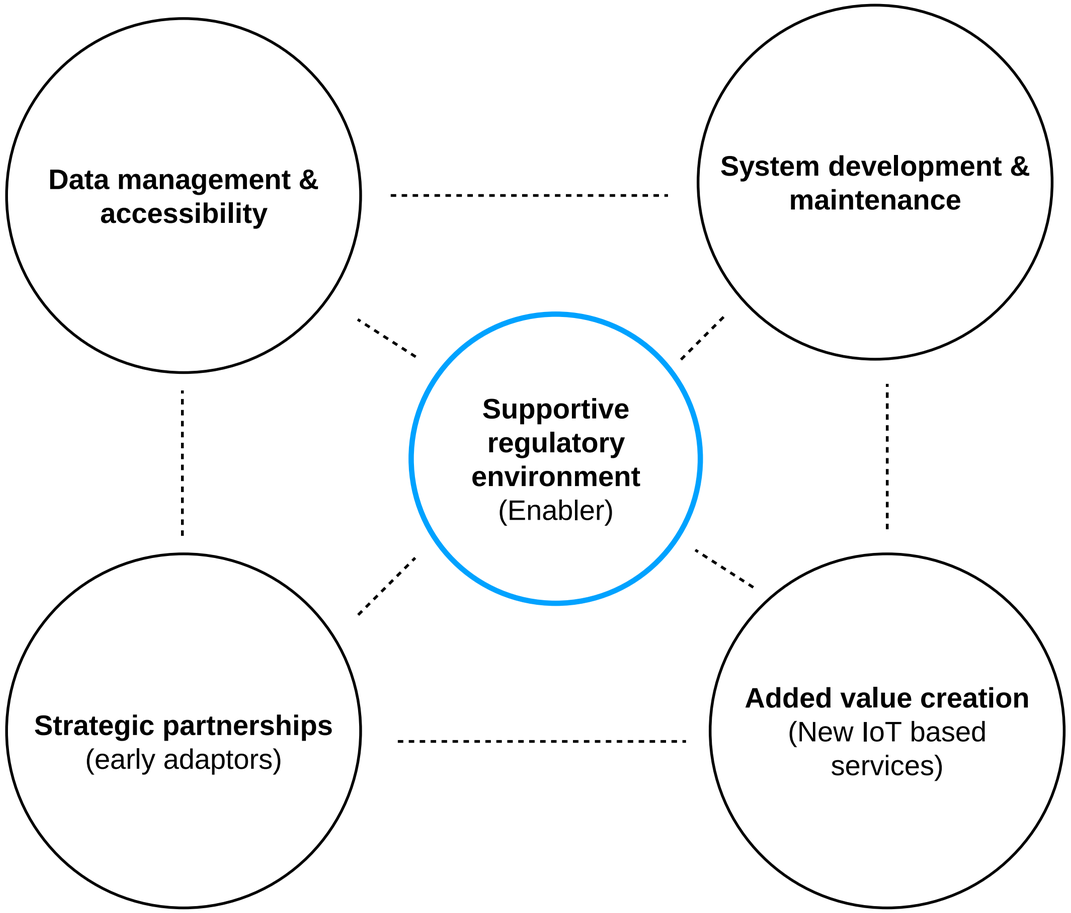
2.5. Recommendations

- Pilot projects might be executed together with private sector partners having the main initiative from their side. In that case public procurement process might not be a barrier.
- Service design and Design Thinking methods focusing on iterative service development might mitigate risks arising from traditional waterfall project planning.
- Every IoT project need to be tested in a smaller scale first in order to mitigate risks of scaling any particular idea;
- Equally carefully need to be developed every system as well as its data ecosystem. How data will be gathered, stored and shared might either produce value or make every IoT project unsustainable.
- IoT data need to be transferred into a user-centered way. Therefore every project will be more successful if User Experience specialists will be involved.

Added value creation

Every IoT system creates valuable data. How can we add value by allowing access to third party researchers and businesses in order to increase system viability and sustainability? These are main building blocks identified in ULG workshops.

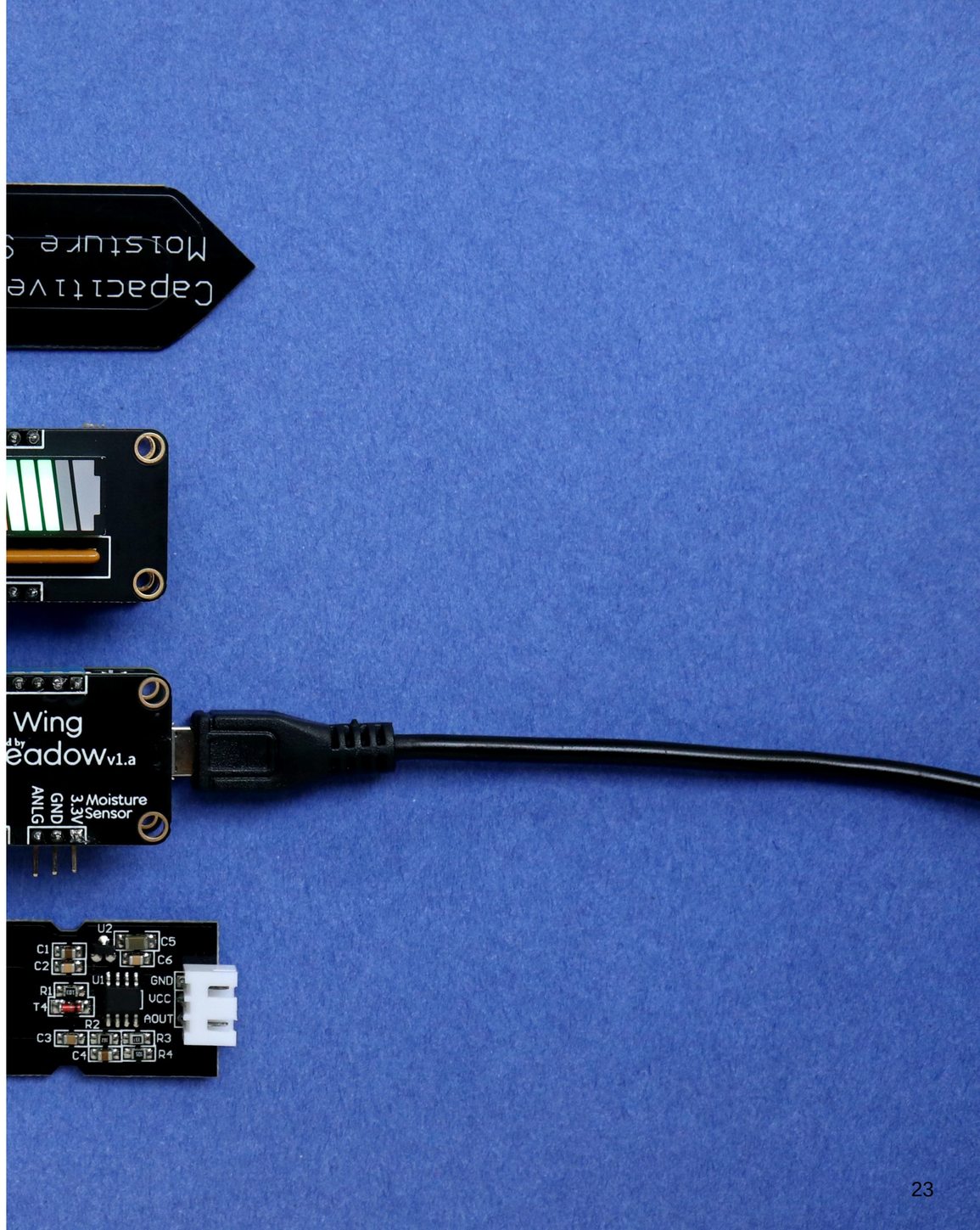
Municipality need to create supportive regulatory environment to foster and enhance all four operational and development activities. Strategic work and investment in these five areas will ensure new IoT system sustainability in a long-term and business viability.



3rd development area

Co-creation & collaboration

Experience, Learn & Scale your ideas!



IoT sector requires strong cross-industry / sector partnerships to reach its full potential and value. We must foster new ways of working, social networks and knowledge transfer.

How might we design opportunities for various stakeholder groups to engage and co-create in order to solve new challenges with IoT technologies?

3.2 Impact zones and key results

Objective To strengthen cross-industry partnering, knowledge exchange and co-creation in order to solve local business and public service challenges with IoT technologies.

Impact zones	**Key results** (KPI's)
Co-creation	**At least one cross-industry event annually is supported to bring together public, private and academic sector players with the objective to innovate.**
Media & communication	**At least 4 PR activities are held annually to support Technology message communication in various public Media platforms.**
Strategy	**A work group of Municipality and City representatives is established to facilitate strategic planning and inclusive communication for IoT related activities.**
Research & Development	**A support program for IoT technology & service development is designed and supported from the Jelgava Local Municipality side.**

3.3. Action plan

Co-creation and collaboration

Action	Intended result	Resources / assets	Lead Agency	Key partners	Timescale & Budget
1.Cross-industry Hackaton	Municipality, businesses and academic sector creates solutions in specific topics such as: - *IoT for Sustainability* - *IoT for Smart businesses* - *IoT for Smart Municipality*	Existing media platforms in municipality and city	Jelgava Local Municipality **Development Department**	• LLU • Riga Tech Girls • LMT, Tele2, TET • Local businesses **Organizers:** • Garage 48	**2023** Q3-Q4 *Cost: 20 000 euro*
2.Digital Technology news & communication in JLM	Regular press releases and feature articles in online municipality managed social media would expose success stories of new IoT technology projects.	Existing media platforms in municipality and city	Jelgava Local Municipality **PR Department**	• Jelgava City	Pilot project: Time: **2023** Q1 / Q2 *Cost: 5 000 euro*
3.Municipality "Technology Days"	Annually or biannually JLM would hold a 1-2 day event with speakers, exhibitors to showcase existing technologies from users and upcoming technologies from vendors.	Existing experience in creating "Entrepreneurship days" in JLM	Jelgava Local Municipality **PR Department**	• Jelgava City • Jelgava Business Incubator • LLU	**First pilot project:** Time: 2023 Q3 *Cost: 35 000 euro*
4. IoT Technology work group for JLM and Jelgava City	A work group consisting of JLM and Jelgava City council members would be made. First result would be a strategic plan how city can collaborate with municipality and what would be defined milestones.	IT specialists from JLM	Jelgava Local Municipality **IT Department**	Support Agency: **Jelgava City**	Time: **2023** Q3-Q4 *Cost: 5 000 euro*
5. IoT technology R&D support program *(Incubator)*	A support program is designed in order to support IoT projects in Jelgava Local municipality from 6 months up to 1-2 years incubation period.	IT specialists from JLM	Jelgava Local Municipality **Development Department**	**Jelgava City** Jelgava Business Incubator	**Time: 2024 - 2026** *Cost: 200 000 euro*

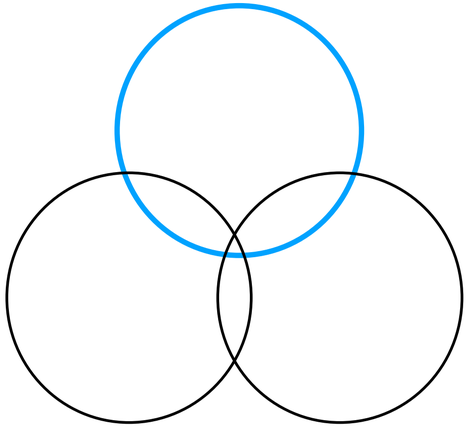
3.4 Potential risks in this area

- Not enough project management resources in the municipality can minimise ability to execute activities in co-creation and collaboration area.
- Private sector not willing to support co-creation events due to other operational expenses and inflation;
- Long term vision about IoT needs in Jelgava Local Municipality may change and shift pre-determined activities.
- Shift in political priorities may affect the relationship and mutual activities between Jelgava Municipality and Jelgava City.

3.5 Recommendations

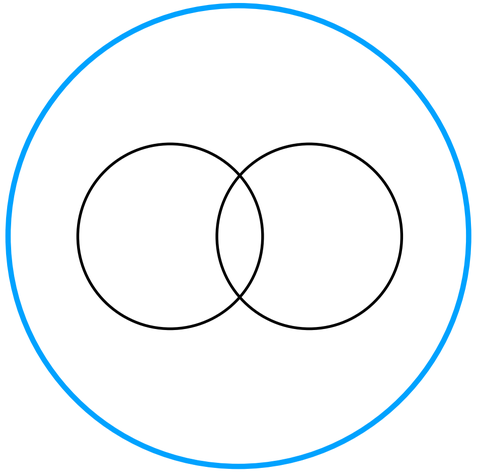
- Co-creation events can be successfully executed in collaboration with third party specialists who can facilitate them, such as Garage48, Helve to name few.
- Existing municipality event formats can be redesigned to fit IoT topic needs. For example “Entrepreneurship days” might be redesigned into “IoT Technology Day” event.
- Media and communication events can also be prototyped and tested in a smaller scale, to measure their viability and value amongst stakeholders applying same principles as in the SSA project.

3.6 Collaboration models



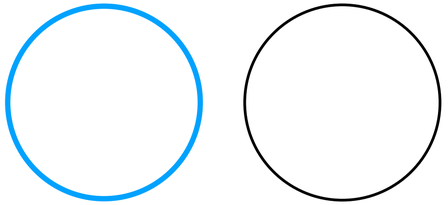
1. Municipality works together with private and academic sector

- Pilot projects and large scale IoT projects
- Cross-Industry Hackatons
- Joint educational programs



2. Municipality provides an environment for partner projects

- IoT Green zone



3. Municipality collaborates with a specific partner for a particular project goal.

- Road quality monitoring

iPESTLE * analysis - external risks & recommendations

Political factors

(-) Changing leadership in Municipality can affect development priorities shifting away from IoT and digital transformation during the whole project time from 2022 to 2032

(+) IoT Action plan activities need to be shared with a wide range of strategic partners to build a strong support coalition. Support from business and academic sectors might influence any upcoming political leader to support continuous efforts in a desired path.

Social factors

(-) Community in Jelgava Local Municipality can view digital transformation activities as something that endangers their daily rhythm. Surveillance, artificial intelligence, 5G network to name few are very sensitive topics in the early development stage and can cause social protests against technology implementation projects.

(+) Active communication before and during pilot projects could be the first remedy to mitigate any negative feedback from unaware society members.

Environmental factors

(-) Environmental risks are one of the top priorities according to World Economic Forum annual risk reports. Severe weather changes, Co2 emission monitoring to name few can affect priorities for IoT technology project prioritisation.

(+) This external risk can be managed more proactively following global trends in environmental preservation activities, CSR activities for large corporations and being in active contact with environmental ministry stakeholders.

Information factors

(-) Data gathered from the Small Scale pilot projects might change the development path of a larger full-scale project.

Feedback from end-users might also affect the outcome of a desired goal that was set at the beginning of the project.

Valuable tech-related news are mostly accessible in English language, therefore language proficiency is a must amongst main stakeholders in the IoT scene.

(+) Carefully planned investment in English education for diverse stakeholder groups can mitigate the accessibility and language proficiency risk.

Economic factors

(-) Covid19 pandemic and Russia-Ukraine war has implications on IoT system costs, therefore it could be risk to strongly take into account the current budget plan for this action plan activities.

(+) Every project can be planned in different scales. Starting from co-founded or even crowd-sourced pilot projects up to multiple stakeholder - EU funded research projects. At every phase it is important to seek diverse ways of funding at the same time thinking how project itself can be viable from the business perspective. (Not always directly profitable but for instance resource saving etc.)

Technological factors

(-) Technology development pace can be very challenging to follow by the planning speed in public sector side. We might face changes in the tech providers and strategic iterations for the Action Plan based on what kind of technologies will be accessible over next 10 year period.

(+) It can be beneficial in every long-term planning document and strategy to focus on problem solving and improved user experience instead of a specific technology.

Legal factors

(-) Development activities in public sector are usually strongly regulated by the local procurement process laws. Many times this is a critical barrier that decreases the quality of end result for any technology or infrastructure related project due to the lowest price winning company.

(+) An opportunity would be to maximise strategic partnerships in first round small scale testing projects to attract investment and support from private side. Once a pilot project is successfully funded by EU funds or private sector players, a very precise technical specification can be made to ensure smooth procurement process for the large scale project contractors and vendors.

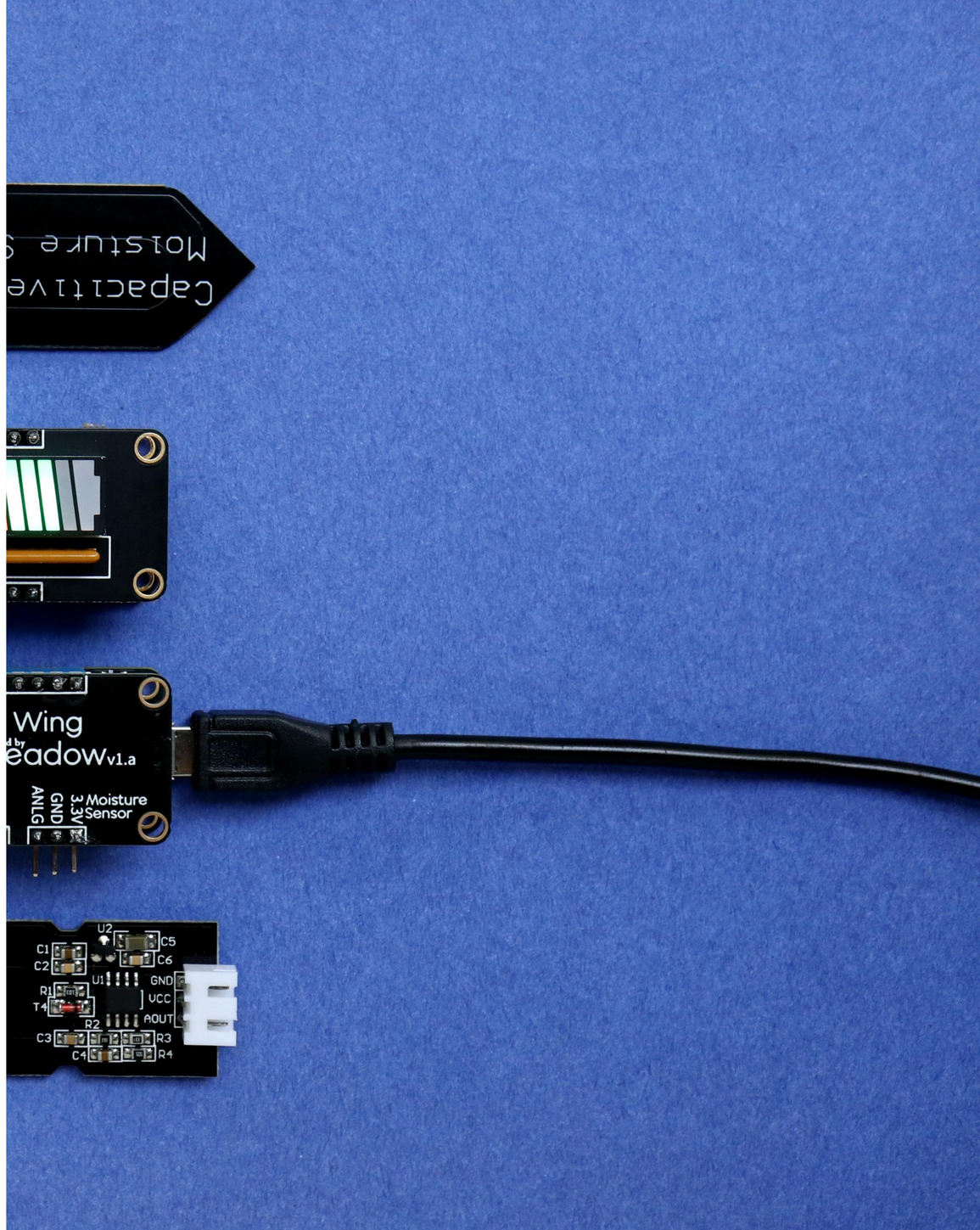
* Source: https://urbact.eu/ipestle

IAP Communication & Dissemination plan

This action plan will further be communicated in various physical and digital channels.

One of the main representative platforms is the municipality homepage http://www.jelgavasnovads.lv/ .
The action plan will also be presented to project stakeholders and partners from the Municipality and Jelgava city at the end of the project. An additional internal presentation will be held by the project core team to the municipality officers and leaders to decide how this action plan can be integrated into day to day work.

As a long-term dissemination plan is an action plan integration into current Municipality development strategies. Thereby ensuring its strong relation to other strategic development initiatives in the Jelgava Local Municipality and Jelgava City. Every action and pilot project in a longer term will work as a communication platform giving reference to this Integrated Action Plan.



IAP project concluding remarks

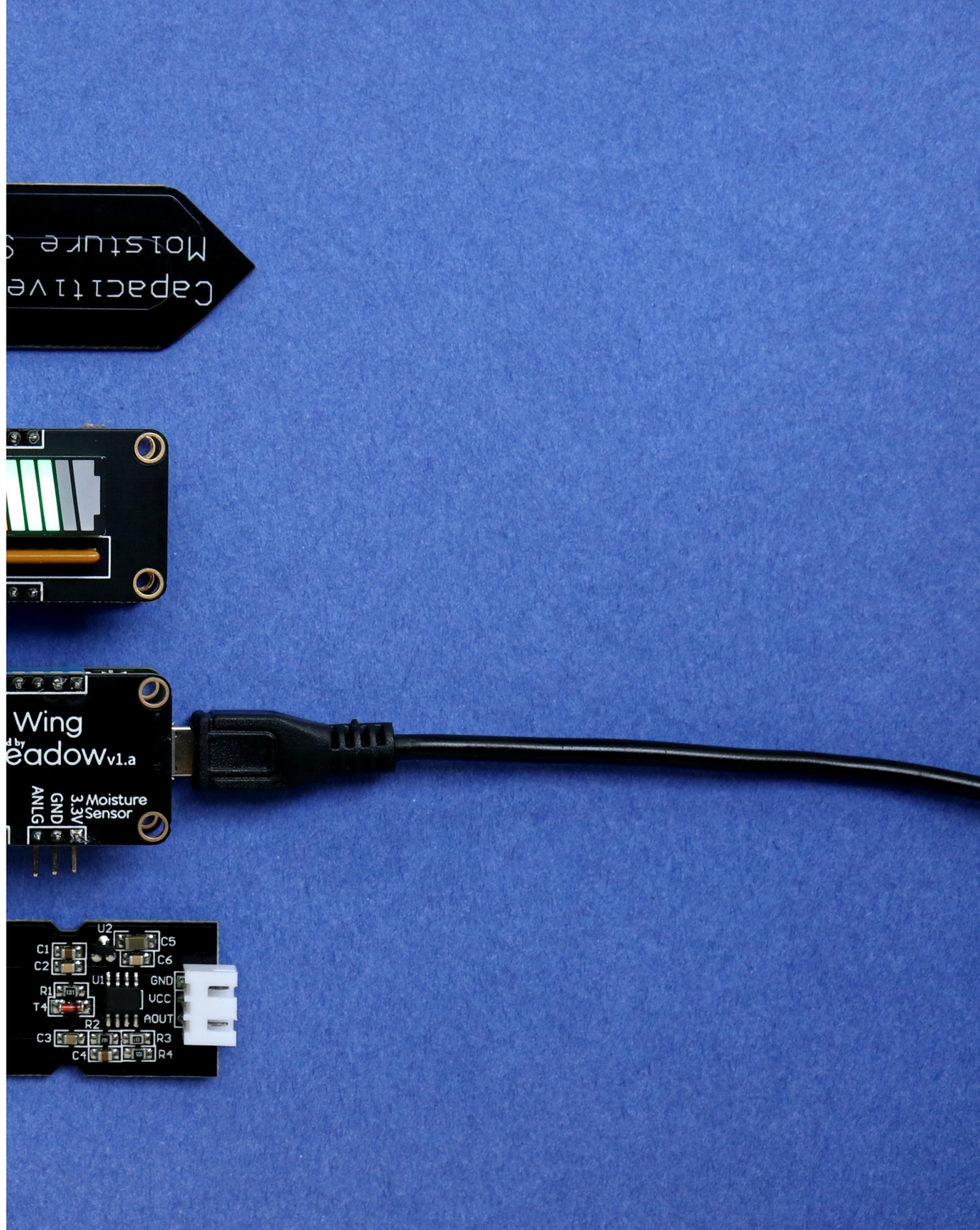
The increasing pace in technology development is inevitable in the whole world. Various opportunities and threats at the same time can be seen in society regarding digital transformation. But what is the right pace for Jelgava Local Municipality to develop?

By nurturing research and strengthening the design thinking mindset in various organisational levels we must embrace truly user-centred way of developing, deploying and maintaining technology enabled services. Only by solving real-life problems and making sustainable choices we can add value to our environment.

For such multi-layered knowledge we are proud to start with education as one of the main building blocs for this project. We are aware that truly connected value-added systems can be made and used by well educated and connected people. From primary school education up to senior programs we want to bring awareness of IoT potential for all involved stakeholder groups.

Once we have a well-prepared foundation, we can further solve real-life challenges with the help of IoT technologies and value-added data management. Data from IoT systems will help in the decision-making process, resource optimization, and future forecasting.

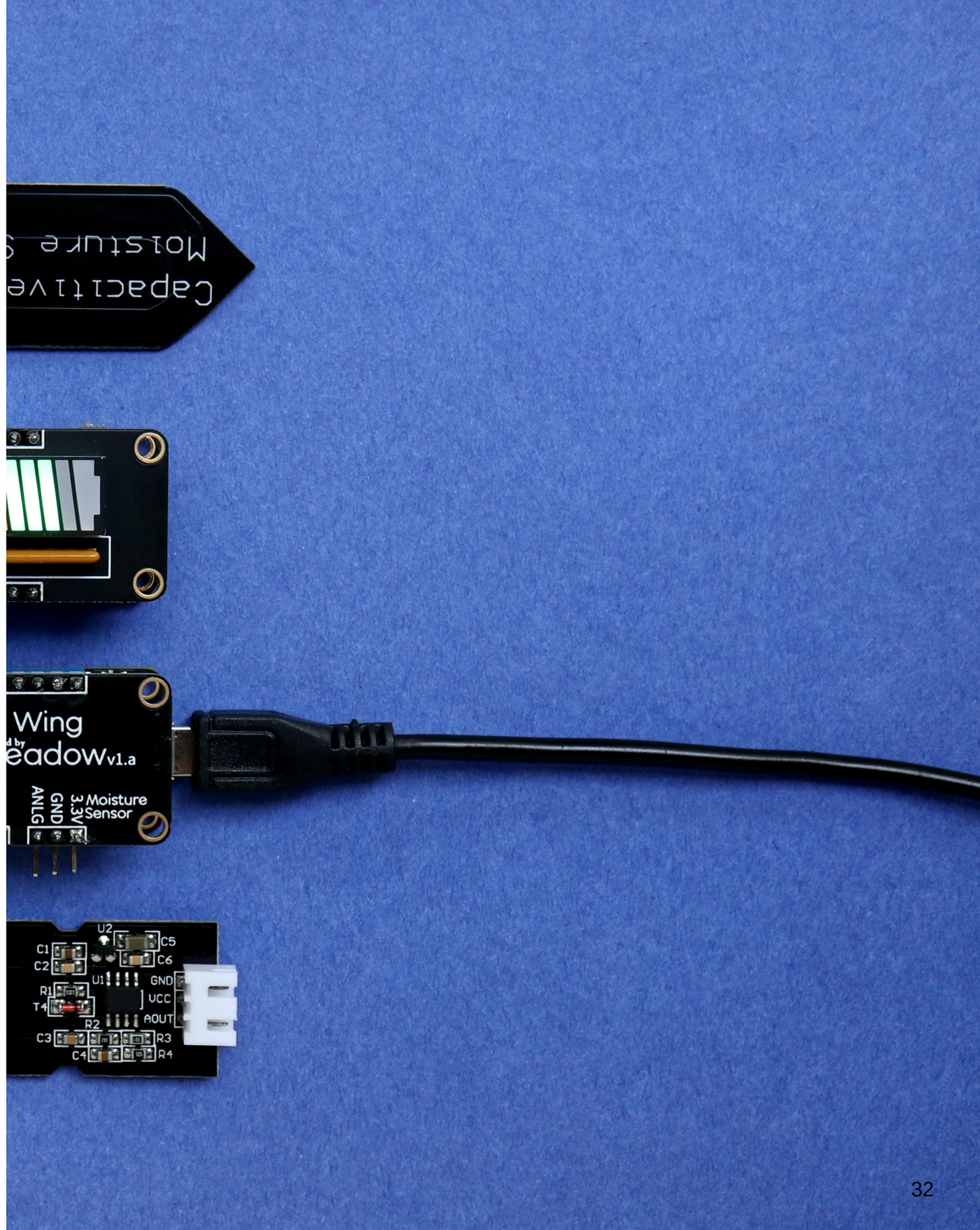
Last but not least, we must share what we know and co-create to be truly sustainable in a long run. Digital transformation is a marathon, where every successful runner needs to continuously learn and develop.



First pilot project

Small Scale Action

Meteo & environmental data sensors in Jelgava Local Municipality

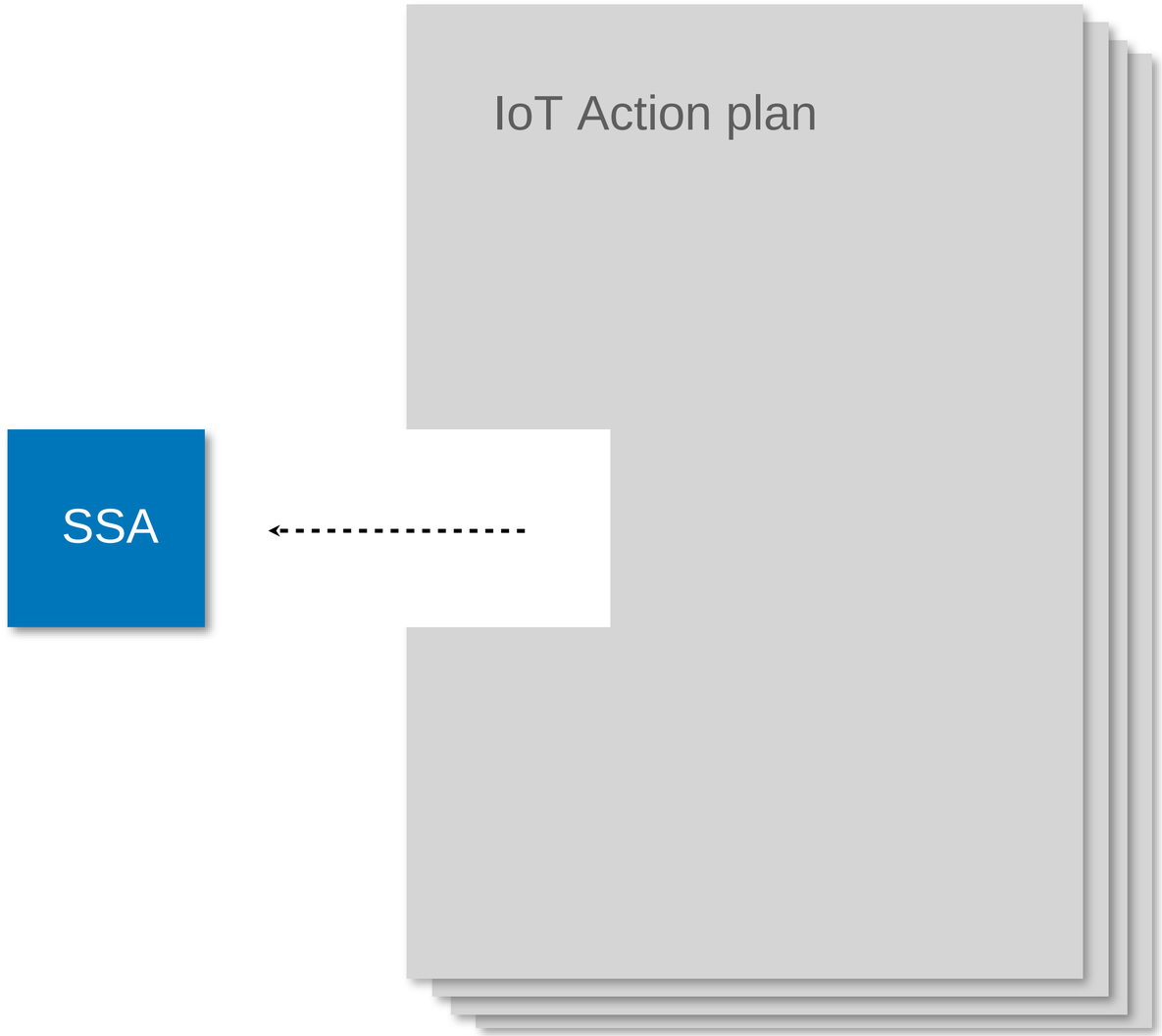


Purpose of the SSA

The main purpose of the Small Scale Action project is to test the main principles of how other Integrated Action Plan activities could be tested and executed on a small scale.

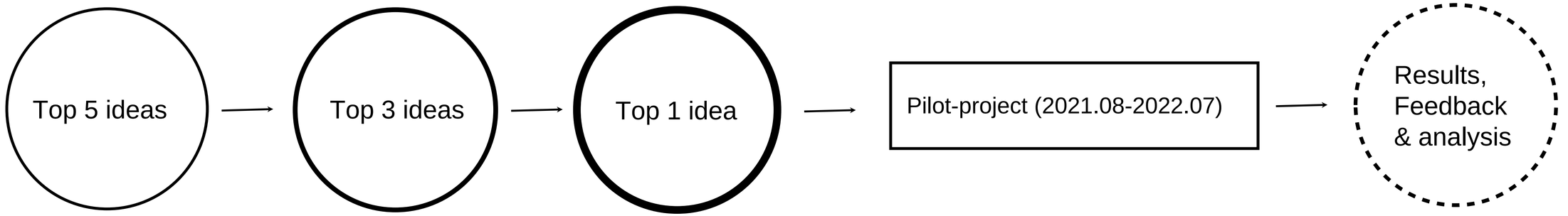
ULG workshops allowed us to identify the most potential areas where IoT technologies could provide value with low-budget testing possibilities. That resulted in weather and environmental data gathering from various pilot territories in Jelgava Local Municipality.

Small-scale pilot projects are crucial to get valuable stakeholder and user feedback during and after the project. These insights can change the approach and direction of any other scale-up project minimizing risks and potential future failures.



SSA project creation roadmap

Objective To have an iterative co-creation process involving ULG members and industry professionals. This service design process allowed us to come up with the most useful topic for maximizing the return on investment.



ULG workshop focused on discovery and define phases allowed to identify the most potential IoT areas, filtering down to the 5 most potential ideas.

Further expert interviews and working session allowed to detail existing ideas and prioritise 3 most viable ones for the next phase.

Final research on hardware costs, feasibility and most potential pilot territories narrowed down ideas to the top 1 idea. This final stage allowed to develop an SSA roadmap and start the Planning and implementation phase

Pilot project was organised with three test partners and external vendor for technology. During the test project various improvements were done to reach intended quality of the result.

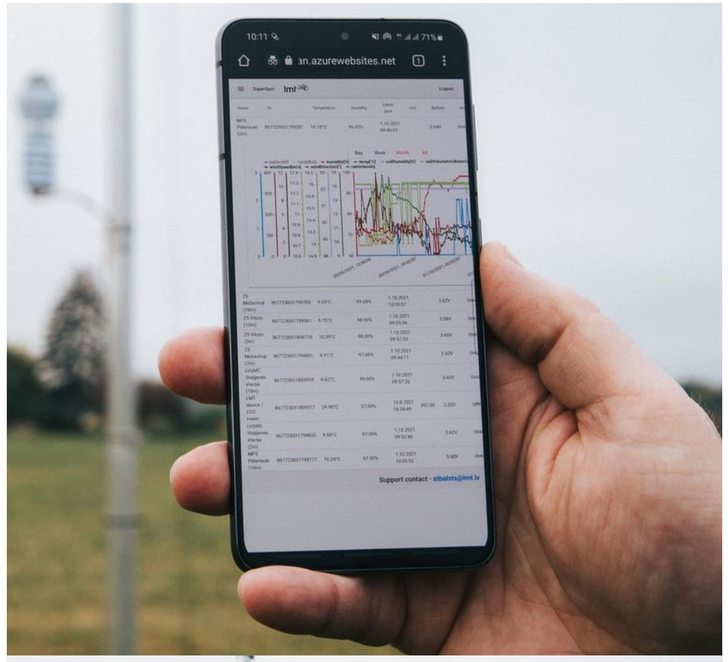
At the end of SSA timeline a feedback from all pilot project partners was conducted. Data are also shown at a specific place in Jelgava Local Municipality home page.

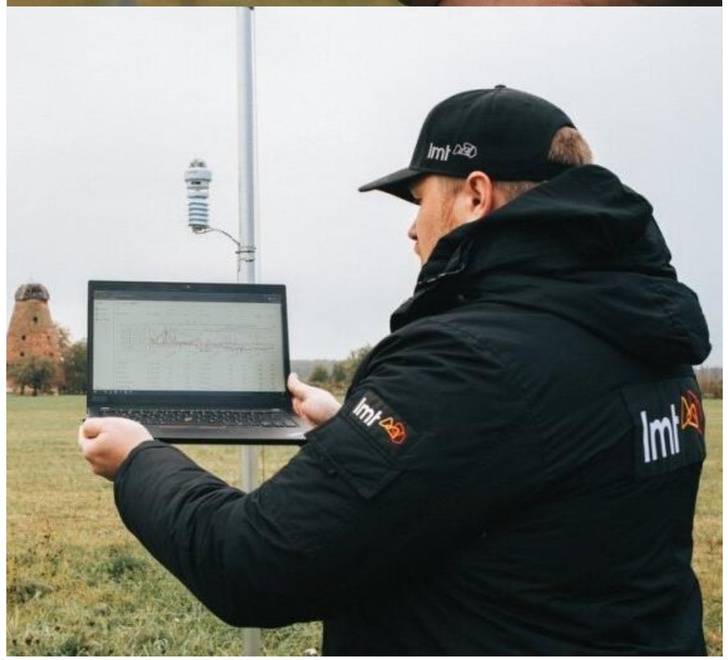
SSA outcome

Four environmental data stations were installed in the Jelgava Local Municipality to measure:

- Air Temperature
- Soil Humidity
- Wind strength
- Wind direction
- Precipitation
- Air humidity

These tests will allow us to continue the discussion on how smaller weather data stations can be used to improve decision-making in agriculture as well as give awareness to all municipality citizens about the specific weather conditions.





More about the project:

Jelgava Local Municipality IoTxChange web page

http://www.jelgavasnovads.lv/lv/pasvaldiba/projekti/paslaik-istenosana/interreg-iii-urbact/15275/lietu-internets-ka-politikas-instruments-parmainam-pasvaldiba-iotxchange/

Press release about the SSA in Labs of Latvia portal

https://labsoflatvia.com/aktuali/inovativas-meteorologisko-noverojumu-stacijas?fbclid=IwAR0LjK4G-xwRZyp3b1oGhdvfAlhtfCHkmdTt0TIdjQBoJUldwmQnKhe4qKE

SSA press video

https://www.youtube.com/watch?v=JFBRvodLpyc&ab_channel=Jelgavasnovads

SSA concluding remarks & partner interviews

A feedback survey after this SSA was conducted to evaluate 4 major questions:

1. What are the benefits of this project?

Pilot partners are seeing benefit of testing the difference between 10m and 2m wind measuring stations and it is interesting to analyse difference in data between them. Test also allowed to evaluate hardware and software quality and usability.

2. What did not work in existing setup?

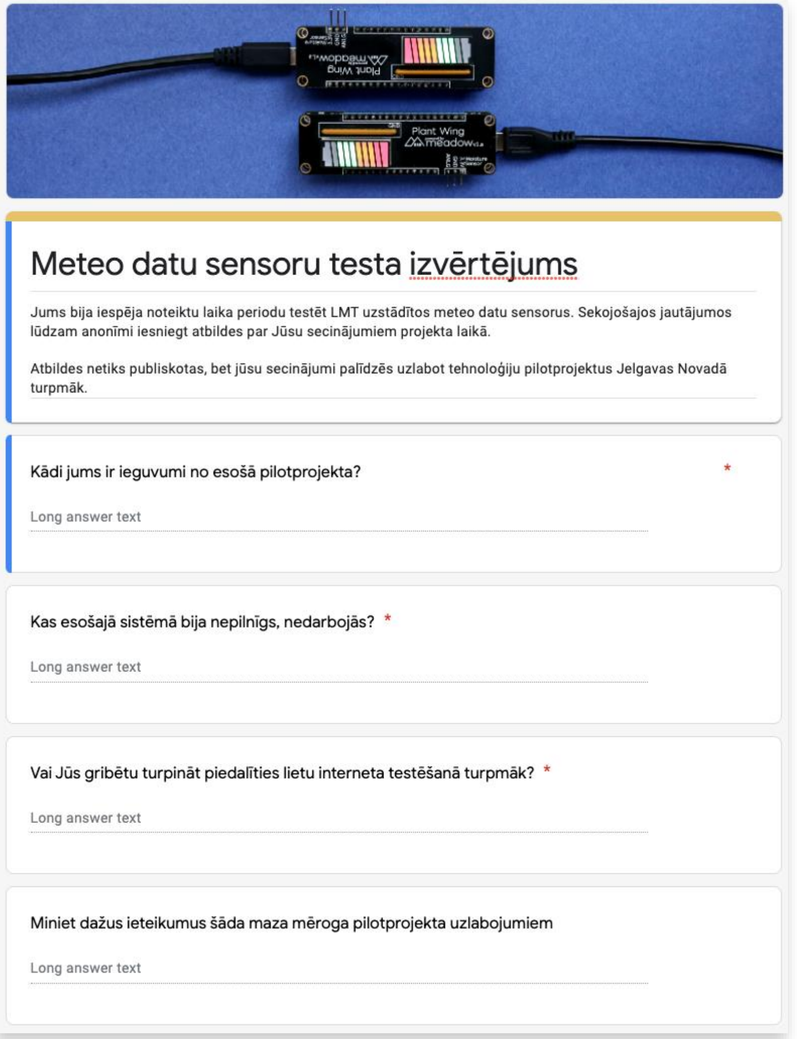
Many times sensor data was not correct and system was out of order due to unknown reasons. This allowed municipality to continue discussion with tech vendors to increase service quality and improve the offering. Test partners would also be willing to test this type of technology for a longer period of time, at least one year to see the full picture.

3. What could be improved in this project?

Mainly a specific coordinator between pilot partners are tech vendors would be needed in order to maintain agile communication and improvements.

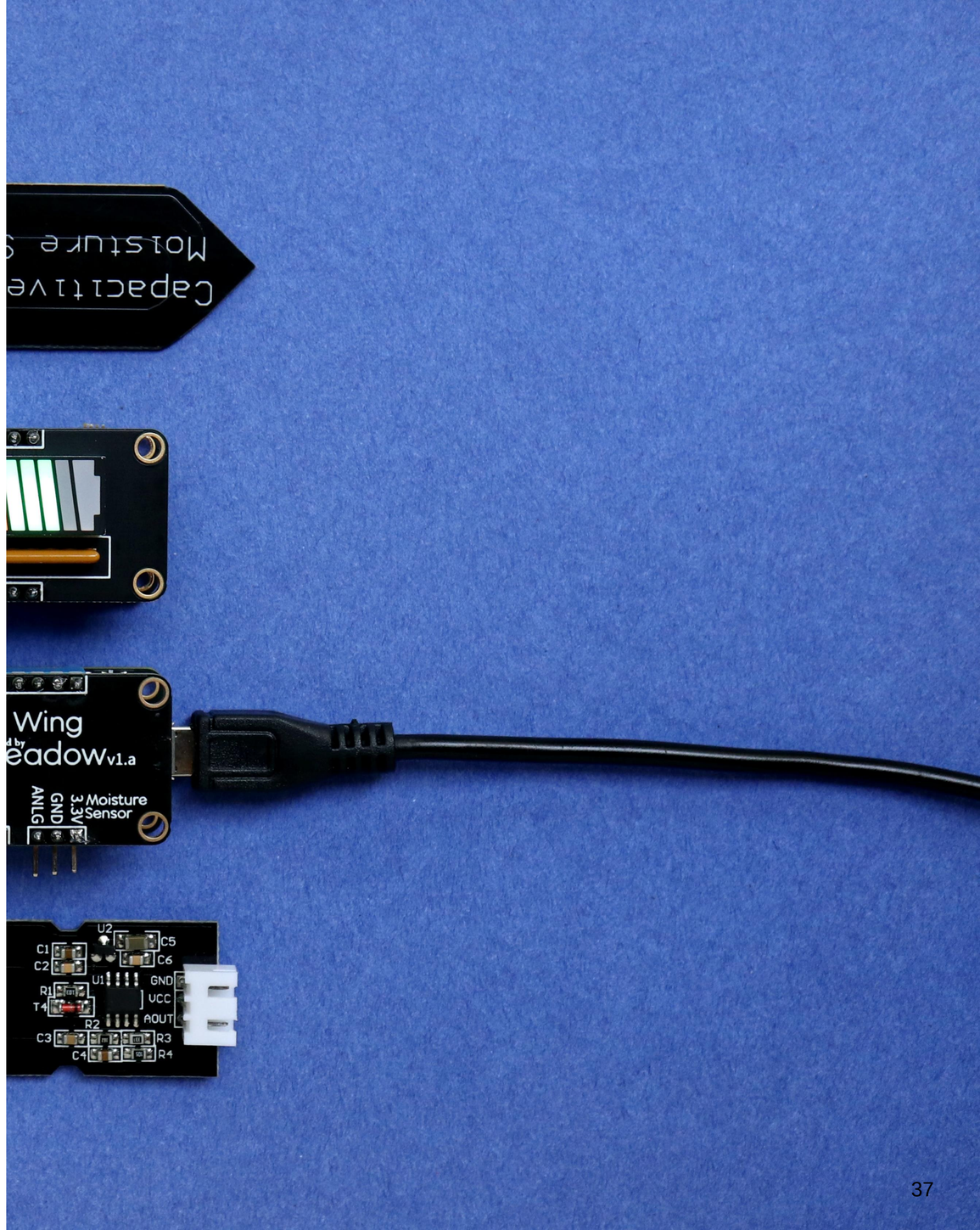
4. Would you like to join in other IoT test projects? Other comments?

Participants found interesting to compare data and see the differences between many other meteo stations. They expressed strong interest in joining other IoT pilot projects and found this useful experience, that would allow to more successfully execute larger scale projects as well.



Appendix

Methods and other project-related resources



Care of your team and stakeholders

One of the most crucial values is to have an engaged core team with strong partners in technology, education, the public sector, and research. Besides primary activities, we have to take care of stakeholder engagement.

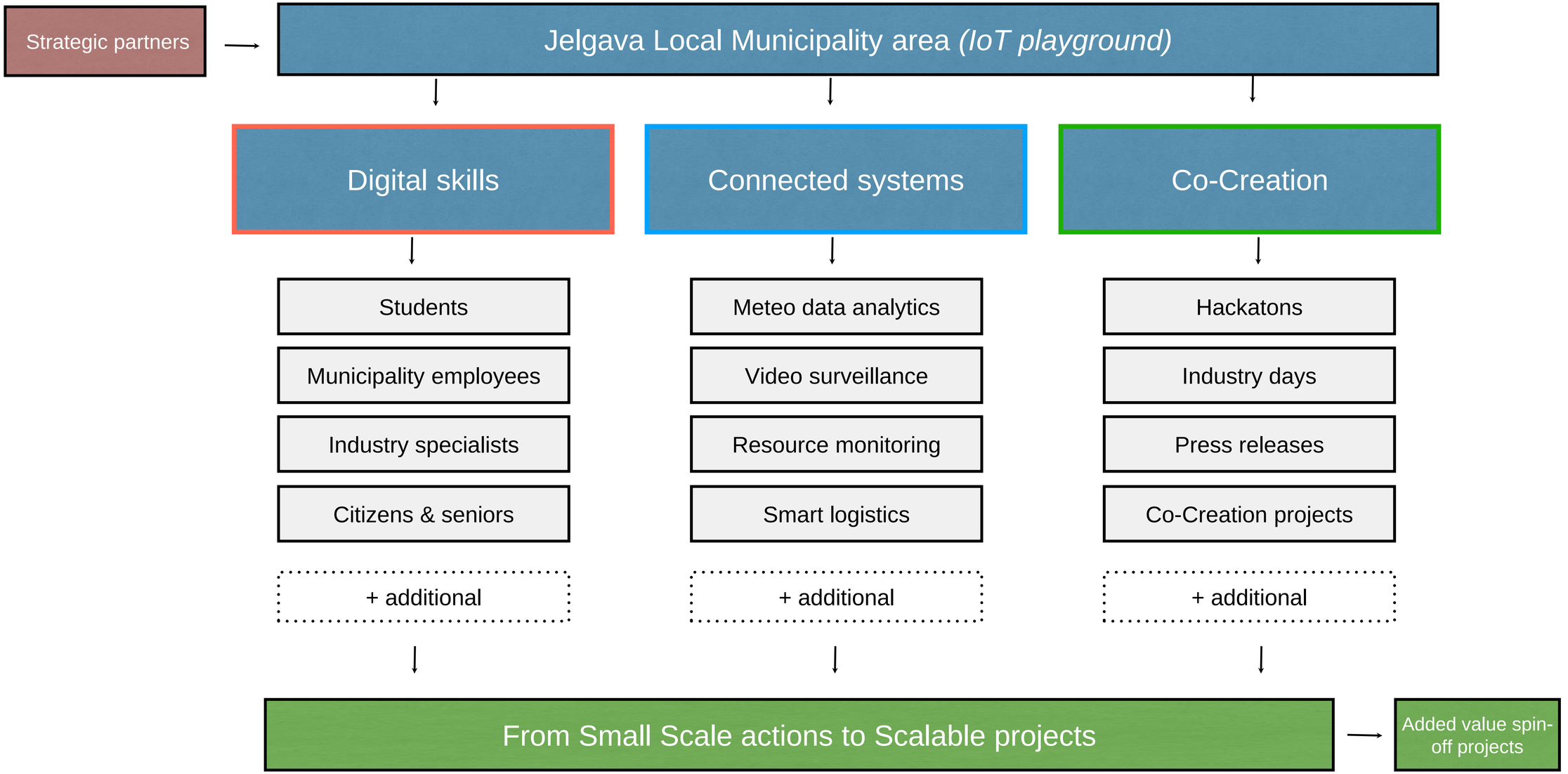
Nurture the ecosystem

Every strong team will be supported by the environment they have to work within. From physical space to digital platforms our mission is to think about what is sustainable, what solves some problems, and what is our footprint from every step we do. We must increase the life quality by not decreasing environmental value for our next generations

Do what feels right

Innovation and problem solving are much about unknown processes, yet untested technologies and unmeasurable results at first. Many times our gut feeling and personal values have to drive us forward because society and the existing environment will play as a barrier for us.

Integrated IoT Ecosystem



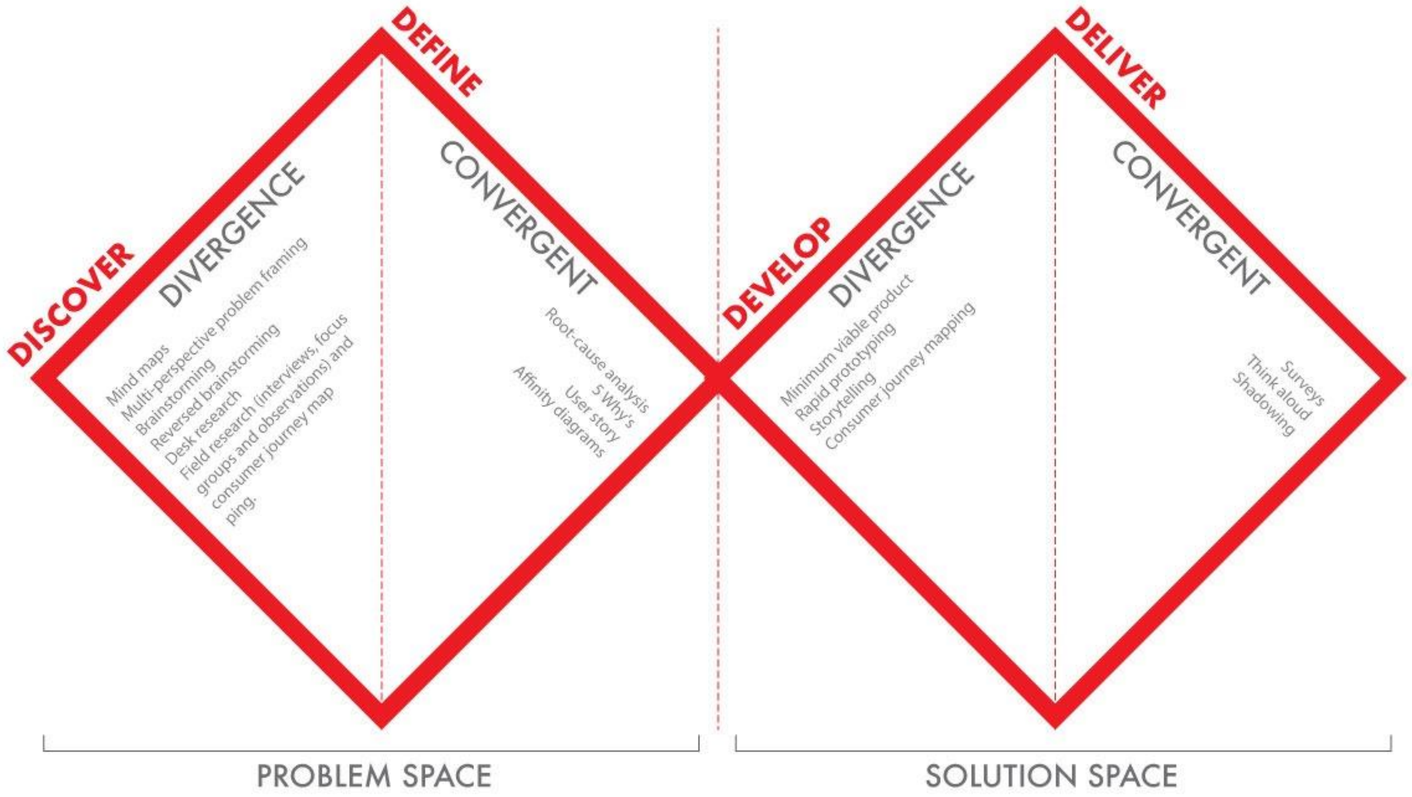
Double Diamond
Service design model

Discover. The first diamond helps people understand, rather than simply assume, what the problem is. It involves speaking to and spending time with people who are affected by the issues.

Define. The insight gathered from the discovery phase can help you to define the challenge in a different way.

Develop. The second diamond encourages people to give different answers to the clearly defined problem, seeking inspiration from elsewhere and co-designing with a range of different people.

Deliver. Delivery involves testing out different solutions at small-scale, rejecting those that will not work and improving the ones that will.



https://www.designorate.com/the-double-diamond-design-thinking-process-and-how-to-use-it/

https://www.designcouncil.org.uk/news-opinion/what-framework-innovation-design-councils-evolved-double-diamond

Co-Creation sessions

https://www.designkit.org/methods/co-creation-session

The first step is to identify who you want in your Co-Creation Session. Perhaps it's a handful of people you've already interviewed. Maybe it's a particular demographic.

Once you know who you want, arrange a space, get the necessary supplies (often pens, Post-its, paper, maybe art supplies), and invite them to join.

Make the most of a Co-Creation Session with Conversation Starters, a Brainstorm, Role Plays, Rapid Prototyping, or other activities to get your group engaged around the problem you're looking to solve.

Capture the feedback your group gives you. **The goal here isn't just to hear from people, it's to invite them into your design team. Make sure that you're treating your Co-Creation as designers, not as interview subjects.**

Kotter’s 8 step change management model

https://www.kotterinc.com/8-steps-process-for-leading-change/

8 Step change managament model provides with clear action steps for every change manager to structure their strategy. This can be used parralel with Double Diamond model ensuring successful innovation implementation by mitigating most visible operational risks.

Simon Sinek golden circle

https://simonsinek.com/product/start-with-why/

WHAT

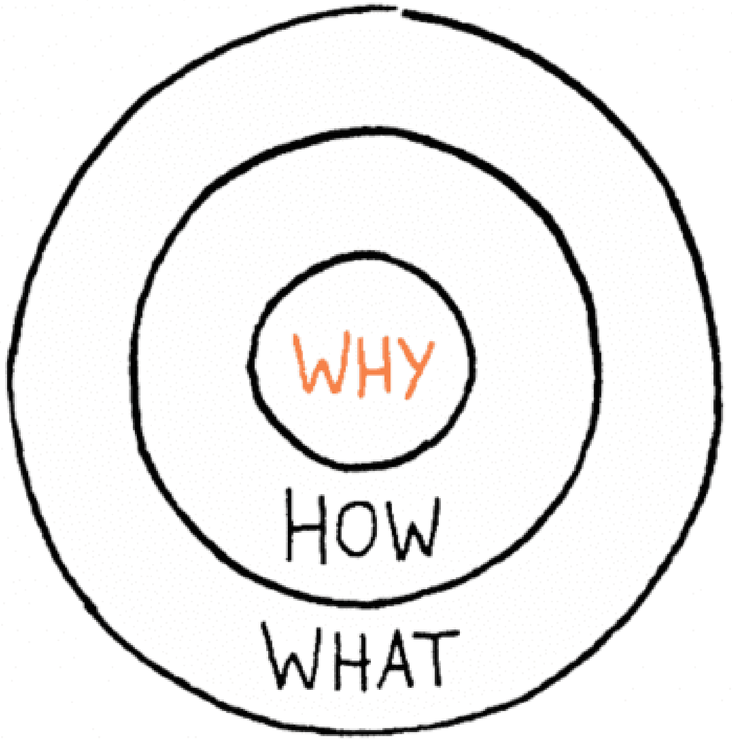
Every organization on the planet knows WHAT they do. These are products they sell or the services

HOW

Some organizations know HOW they do it. These are the things that make them special or set them apart from their competition.

WHY

Very few organizations know WHY they do what they do. WHY is not about making money. That's a result. WHY is a purpose, cause or belief. It's the very reason your organization exists.



This method helps to structure presentations, interviews and even large scale corporate strategies by focusing on the purpose than the outcome first.

“How Might We” questions

https://toolbox.hyperisland.com/how-might-we-questions

By defining themes and insights, you’ve identified problem areas that pose challenges to the people you’re designing for. Now, try reframing your insight statements as How Might We questions to turn those challenges into opportunities for design.

We use the How Might We format because it suggests that a solution is possible and because they offer you the chance to answer them in a variety of ways. **A properly framed How Might We doesn’t suggest a particular solution, but gives you the perfect frame for innovative thinking.**

JELGAVA LOCAL MUNICIPALITY
FOR A SUSTAINABLE FUTURE

European Union
European Regional Development Fund

URBACT
Driving change for better cities

IoTxChange

Integrated Action Plan

Smart municipality/
IoT development plan for
Jelgava Local Municipality
2022 - 2032