
ik Digital Labs
ESSENTIAL
jp.ik
inspiring knowledge

ABOUT US

With more than **30 years** of experience jp.ik, is a Portuguese Company and the business unit for Education of **jp.group**.

From Portugal to the world, **jp.ik** in 2008 launched the world's first national Edtech initiative, in Portugal, democratizing social inclusion and access to education.

+17M
Students

+110K
Equipped Schools

+320K
Capacitated Teachers

intel

Microsoft

SUSTAINABLE DEVELOPMENT GOALS

CERTIFIED ISO14001

UN GLOBAL COMPACT

WORLDWIDE
EDUCATION PROJECTS

Angola
Argentina
Armenia
Austria
Azerbaijan
Bangladesh
Belgium
Benin
British Virgin Islands
Bolivia
Bosnia and Herzegovina
Botswana
Brazil
Bulgaria
Burkina Faso
Cape Verde
Chile
China
Colombia
Costa Rica
Comoros
Cote d'Ivoire
Curaçao
Cyprus
Czech Republic
Denmark
Djibouti
Dominicana
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Finland
France
Gambia
Gabon
Georgia
Germany
Ghana
Guatemala
Guinea Bissau
Honduras
Hungary
Indonesia
Iraq
Ireland
India
Israel
Italy
Ivory Coast
Jamaica
Jordan
Kenya
Kazakhstan
Kuwait
Latvia
Lesotho
Lebanon
Lithuania
Malaysia
Macao
Malawi
Malta
Mauritius
Mexico
Mongolia
Morocco
Mozambique
Namibia
Netherlands
Nigeria
Norway
Palestine
Oman
Pakistan
Panama
Paraguay
Peru
Philippines
Poland
Portugal
Puerto Rico
Romania
Russia
Rwanda
Sao Tome and Principe
Saudi Arabia
Senegal
Seychelles
South Africa
Spain
South Sudan
Sri Lanka
Sweden
Switzerland
Thailand
Taiwan
Tanzania
Trinidad and Tobago
Tunisia
Turkey
Timor Leste
Uganda
Ukraine
United Arab Emirates
United Kingdom
Uruguay
USA
Uzbekistan
Venezuela
Zambia
Zimbabwe

+100

countries

ik DIGITAL LABS

This initiative was born from the **close collaboration** between teachers, students, pedagogues and EdTech Specialists to pave the way for Governments and Public institutions, as well as every single stakeholder to develop Digital skills of school-age citizens or working population.

Digital skills are important for **working, studying**, accessing services and buying products, or keeping in touch with friends and **family**.

What are ik DIGITAL LABS?

Learning Spaces designed to **stimulate interaction** between students and **make them the protagonists of the process**. It has tools such as computers, a 3D printer, a laser cutter, drill and robotics kits.

Students are stimulated to test hypotheses presented in class and to **develop projects** with the aim of proving them - whether it's understanding the process of an electric current, or creating a robot, from **paper to prototypes**, towards the development of digital skills.

At the sime time, ik Digital Labs enhances soft skills such as collaboration, cognitive empathy, and team work.

The training offer:

MAKER SPACE **ESSENTIAL**

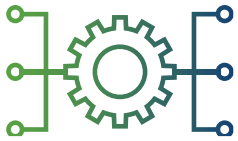
MAKER SPACE **ADVANCED**

2nd and 3rd cycle of basic education

Secondary and vocational education

both are **interlinked** and **interconnected** although **independent**

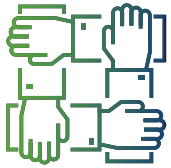
a **human-centered** and inclusive digital environment



more **secure**, **accessible** and **sustainable** digital infrastructures

increased use of **digital skills**

online **public services** for everyone



strengthened **collective** resilience

MAKER SPACE
ESSENTIAL

The setting up of **Maker Space ESSENTIAL** is expected to support schools in the integration of **digital technologies in the teaching and learning process**.

Providing schools with technological equipment for the effective **use of digital technologies** as drivers of innovative, inclusive and accessible teaching practices.

Encourage the transversal integration of technologies into the curriculum from an early age, providing contact with these technologies, which could even help with choices regarding further studies.

Developing digital skills and encouraging further study in **STEAM areas**, promoting equal participation by girls and boys.

Teachers can create/adapt their own scenarios and implement them with their students.

The **Maker Space Essential** is composed by three learning spaces that together develop **STEAM digital skills**.
Every space has the capacity for **25 students** and each one of the spaces promotes:

PLAY

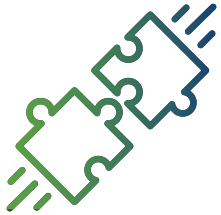
encourages exploration, without the concern of always getting it right;

PASSION

students should work with themes that mean something to them, within their own realities and contexts and contexts;

PEER LEARNING

students work in groups and learn from each other;



PROJECT-BASED LEARNING

learning takes place through projects;

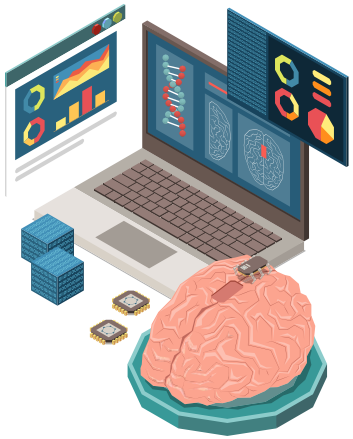
MAKER SPACE

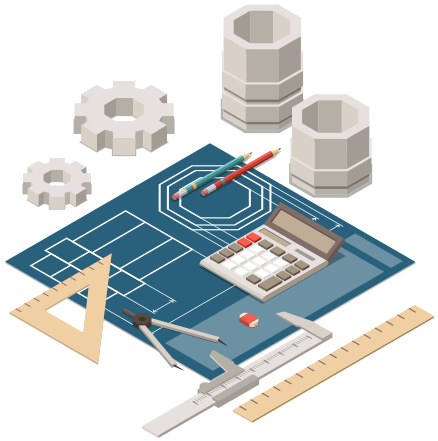
ESSENTIAL

CODING AND MAKER

ARTS AND MULTIMEDIA

SCIENCE AND ROBOTICS



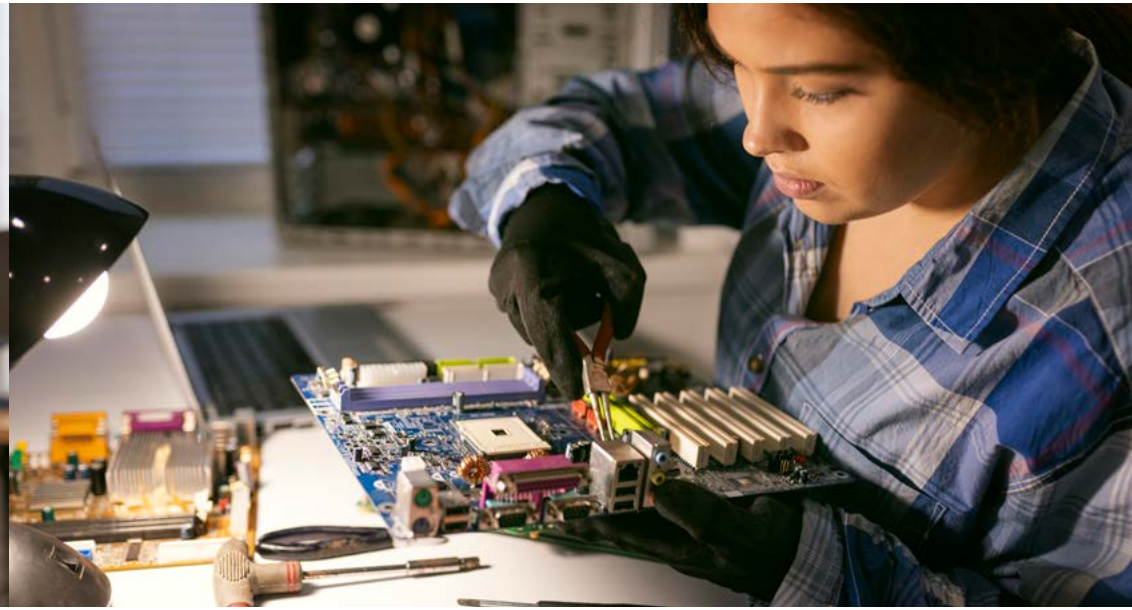


CODING & MAKER
MAKER SPACE ESSENTIAL

This space encloses components that make possible to develop projects related to **programming and robotics** in different contexts.

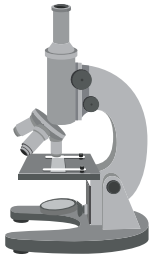
A set of **sensors** along with eletronic boards have been integrated to allow the complexity of the projects to evolve. It provides a very fast learning curve and can be programmed graphically by **blocks** or even with more advanced programming languages.

For a more elaborate **programming and robotics** context, Arduino boards have been added, complemented by various **sensors** and development support boards. Arduino boards are known for their ability to support **robotics-related projects** and are a benchmark in the development of intermediate and advanced programming in the areas of electronics, programming and robotics.

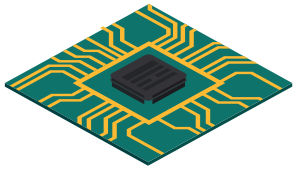


Some technical specifications:

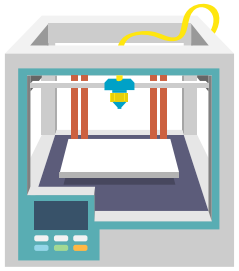
- Complete integrated electronic board with the essential accessories to start programming and robotics projects;
- Set of sensors to be used with the electronic board mentioned above;
- Arduino board compatible with the following components: breadboard, set of different resistors, buzzers, sensors, colored LEDs, pushbuttons, displays, switches, among others;
- Integrated educational programming and robotics kit and Expansion set;
- Integrated educational programming and robotics kit for Arduino.



Microscope

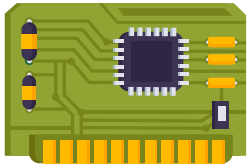


Arduino

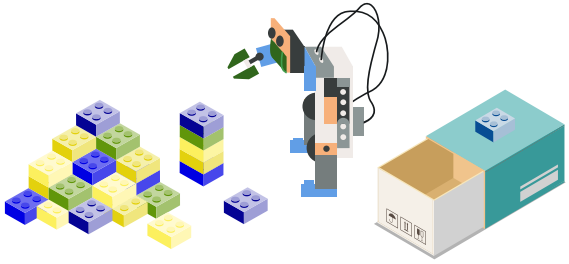


3D printer

Laptops

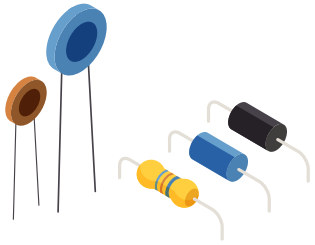


Micro:bit



Robotic Kit and Expansion Set

Tools



Sensors

Drones

ARTS & MULTIMEDIA
MAKER SPACE ESSENTIAL

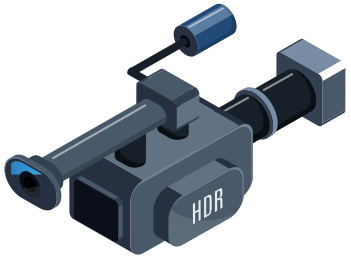
This space allows students to **develop projects** with audio, video, image processing and digital design components. Bringing together text, graphics, digital animation, video, photography, audio and virtual reality to create a range of products that can be delivered on a range of multimedia platforms.

Components include a Chroma Key set with 5 backgrounds, a lighting system, a video mixer with 2 inputs and transitions, a PC video input card, a stream controller for realization and production (widely used for live video composition), a set of two speakers, accompanied by an 8-input audio mixer.

It also includes a camera for image work (with 4K video recording capability), and external microphones for cameras. This equipment also features a semi-professional quality video camera for more complex projects, complemented by specific tripods.

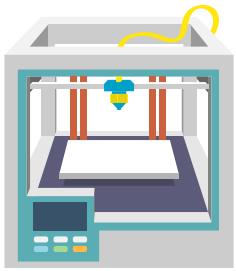
Some technical specifications:

- Photo studio equipment comprising a range of different backgrounds;
- Mixer with switcher, resolution converter, audio processing and video effects, among other features;
- Streaming controller with programmable keys and USB interface;
- High-quality cameras with 4K video recording
- 4K digitizing tablet with pen, compatible with Windows and Mac systems.

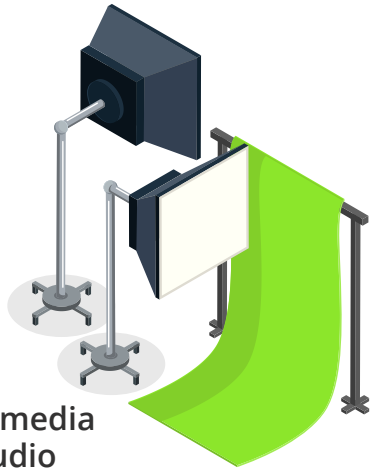


Camera 4k

Laptops



3D printer



Multimedia Studio

Mixer

Tools

Headphones

SCIENCE & ROBOTICS
MAKER SPACE ESSENTIAL

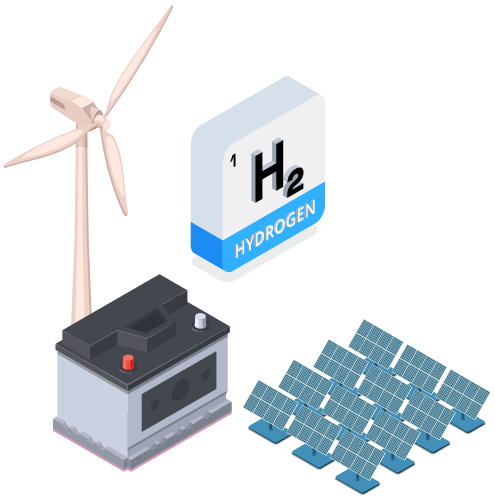
This space is science, technology, **engineering** and **mathematics** oriented. It includes a ready to use robot and a set of programmable sensors such as sound, gas, temperature, humidity, colour, movement and light.

The **STEM** Area has a processing board which, by using a scientific calculator, allows programming and creating engineering projects. A **robot** has been added to explore topics and concepts explored of the basic and secondary education curriculum.

It also includes a renewable energy laboratory, which allows a set of modular experiments associated with the operation of clean energies - wind turbines, solar cells and batteries. This lab comes with specific software, as well as manuals and study guides for **collaborative** work.

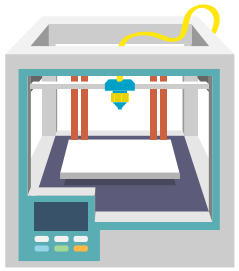
Some technical specifications:

- Explorer Robot Kit, containing a LED matrix, accompanied by a compatible battery;
- Teaching laboratory microscope with integrated digital camera and tablet;
- STEM LaunchPad Board project equipment to complement the functionality of graphing calculators, enabling programming and engineering projects;
- A programmable robotic vehicle for maths, science and programming, complementary to the LaunchPad Board equipment;
- A science kit on renewable energies to demonstrate clean energy production.



Renewable Energy Kit

Laptops



3D printer

M:bot

Microscope

MAKER SPACE ESSENTIAL

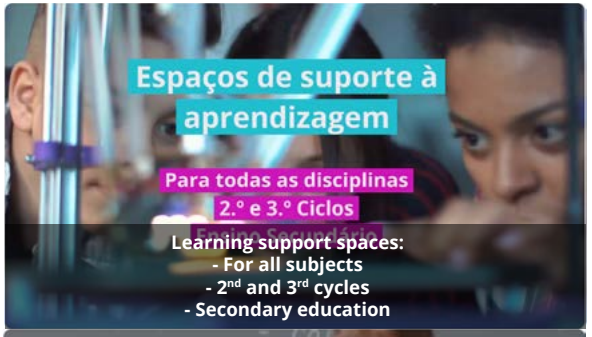
IN ACTION

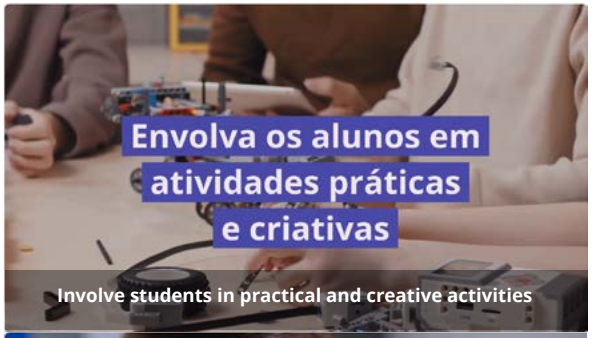
Since 2023 the Maker Space Essential has been part of the educational landscape for the 2nd and 3rd cycle of basic and secondary Portuguese schools.

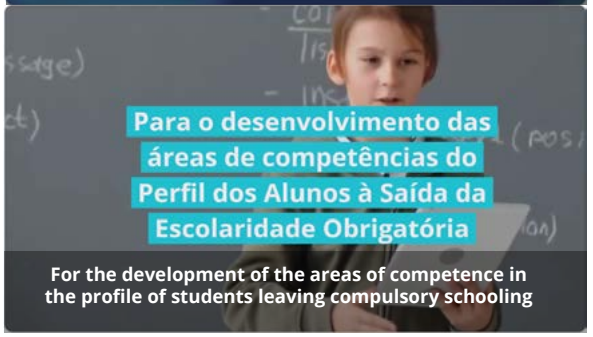
Today, the school curriculum is complemented and enhanced by these digital laboratories in three areas: Coding & Maker; Arts & Multimedia; Science & Robotics.

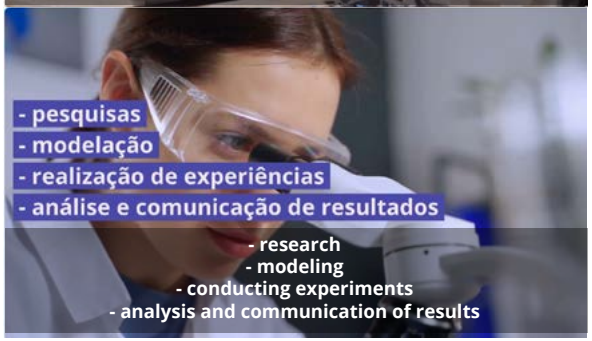
The Portuguese educators have now access to a library of content and classroom activities, for a hands-on and heart-on EdTech learning experience.

Over five months jp.ik multidisciplinary team have worked closely to design, develop and deploy the integrated **Digital Labs** solution.









You can check the video on youtube:

SCHOOL OPERATIONAL REQUIREMENTS

The schools must gather the following physical and human resources:

- Provide a space to host the **Maker Space Essential** equipment. This space may or may not be exclusive but needs to have the technical and organisational conditions to allow students and teachers to use it properly and safely.

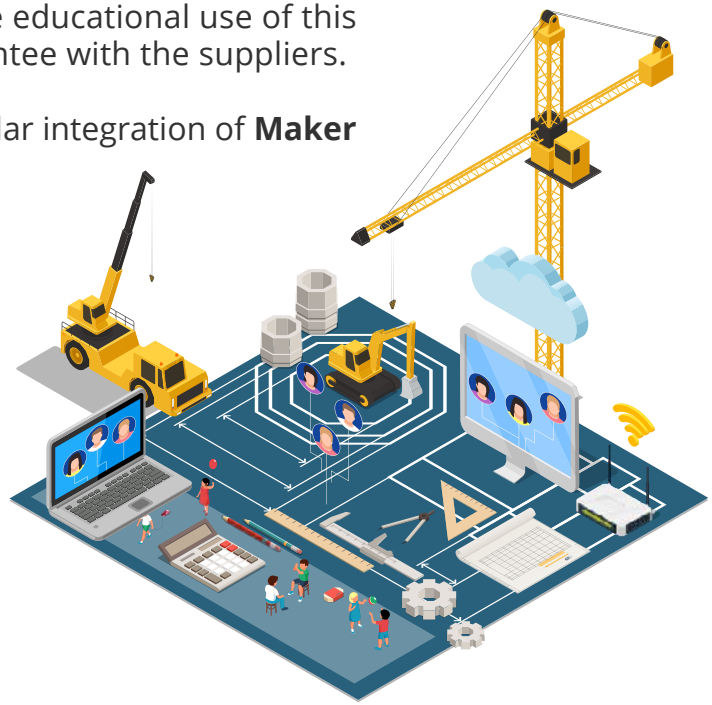
- The **Maker Space Essential** space should be permanent and be clearly marked on the school's floor plan. jp.ik may provide a physical facility ready to accomodate the infrastructure and learning spaces.

- These dedicated spaces should also be prepared with the **network** and **electrical infrastructure**.

- The **Maker Space Essential** Champion will be the contact person appointed by the school, responsible for receiving, checking, and installing all the equipment delivered and making the educational use of this equipment profitable. It must ensure the applicable procedures regarding guarantee with the suppliers.

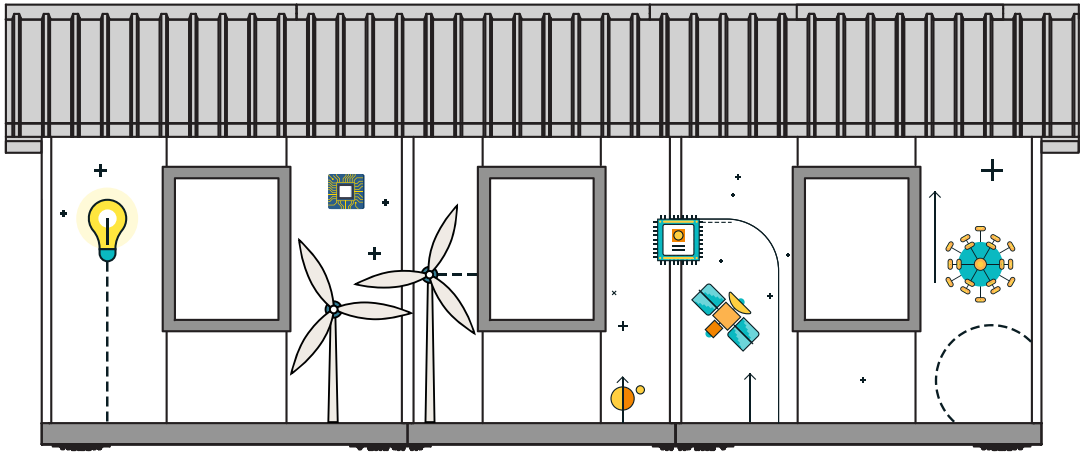
Additionally, each school should set up a working team responsible for the curricular integration of **Maker Space Essential's**, including representatives of the various departmental groups.

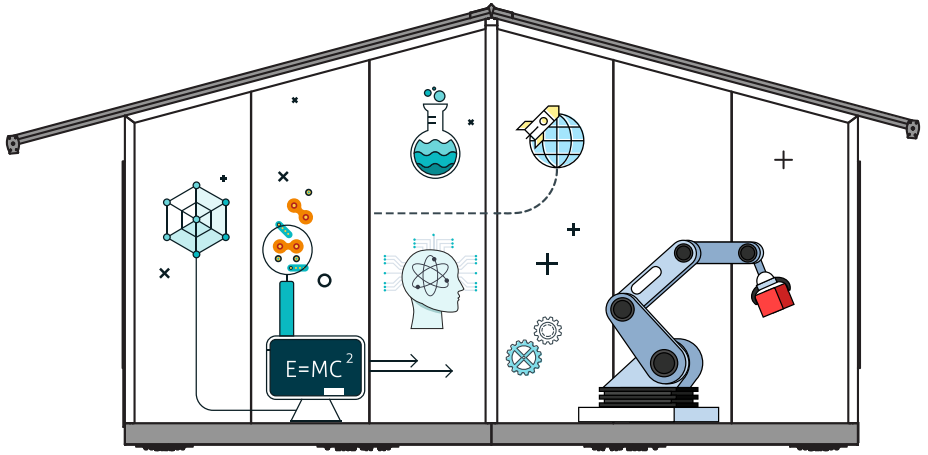
INFRASTRUCTURE INVESTMENT

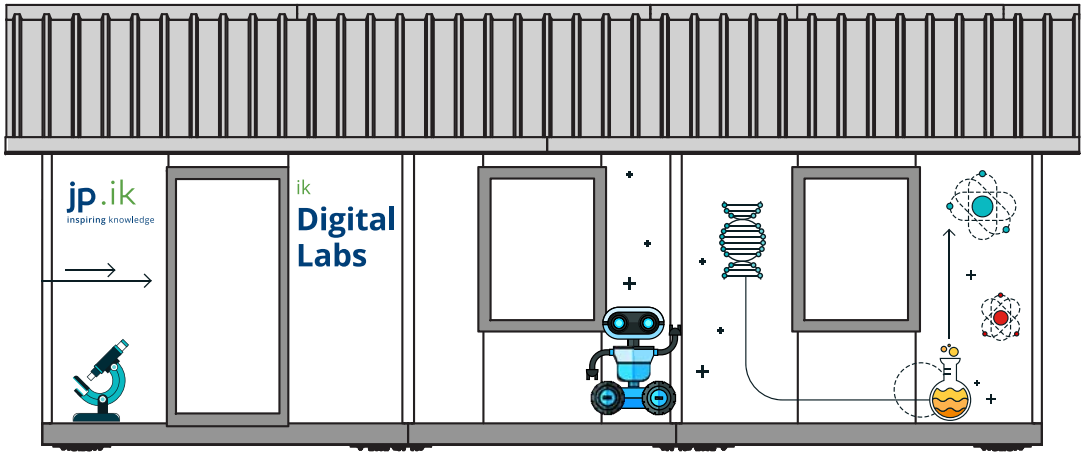


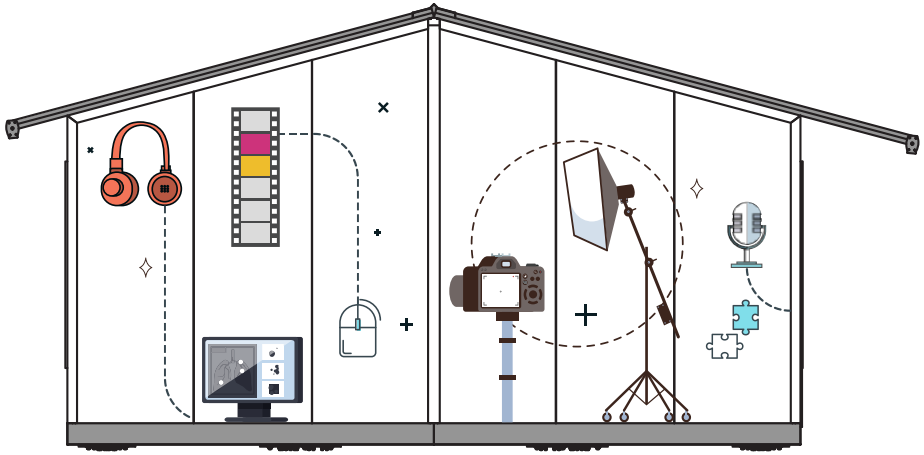
POP-UP

DIGITAL LAB

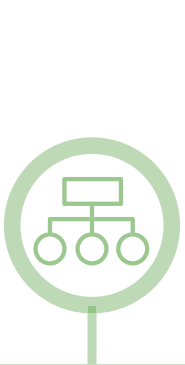








IMPLEMENTATION ROADMAP



1st Stage

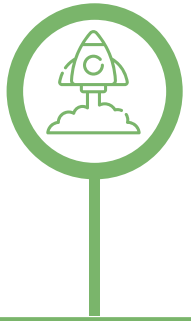
Assessment

~ 2 weeks

2nd Stage

Infrastructure and Logistics

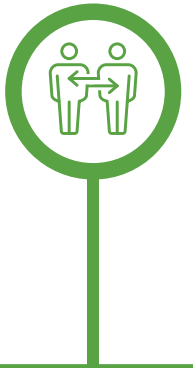
~ 4-6 weeks



3rd Stage

Setup and Implementation

~ 2 weeks

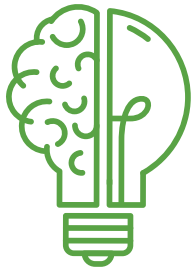


4th Stage

Training Knowledge Transfer

~ 2-3 weeks

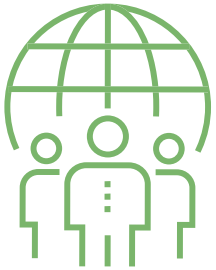
A GLANCE INTO THE **FUTURE**



SKILLS

ICT Specialists

Basic Digital Skills



DIGITAL TRANSFORMATION OF BUSINESS

Tech up-take: companies using Cloud, AI, or Big Data

Innovators: grow scale-ups & finance

Late adopters: SMEs reach at least a basic level of digital intensity

SECURE AND SUSTAINABLE DIGITAL INFRASTRUCTURES

Connectivity: Gigabit for everyone

Cutting edge Semiconductors: in global production

Data - Edge & Cloud nodes

Computing: computer with quantum acceleration

DIGITALISATION OF PUBLIC SERVICES

Tech up-take:companies using Cloud, AI, or Big Data

Innovators: grow scale-ups & finance

Late adopters: SMEs reach at least a basic level of digital intensity

WANT TO KNOW MORE?

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