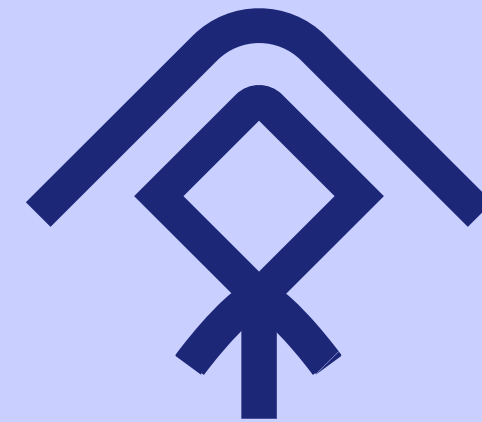




# Thingwalla

**DECEMBER 2024**

**Public service digitalization is  
hindered by significant challenges**

# To name a few:

- complex procurement systems
- inadequate interoperability
- poor re-use of solutions
- lock-in effects
- reliance on large IT providers
- and limited opportunities for smaller innovators



# This leads to:

- inefficient public service delivery
- high costs
- limited innovation
- reduced opportunities for startups and SMEs to deliver groundbreaking digital services to public institutions
- low trust in public administration by citizens, to the extent that it is posing a threat to democracy itself



We have a **distributed governance** model that **impairs digitalization** because it tries to build solutions in a **centralized way**.

We know that **decentralization promotes innovation** and digitalization but still need some kind of **centralized** way of arranging this.



How can we **untangle** the **complex web** of public service digitalization?



Today

Custom made  
by public sector

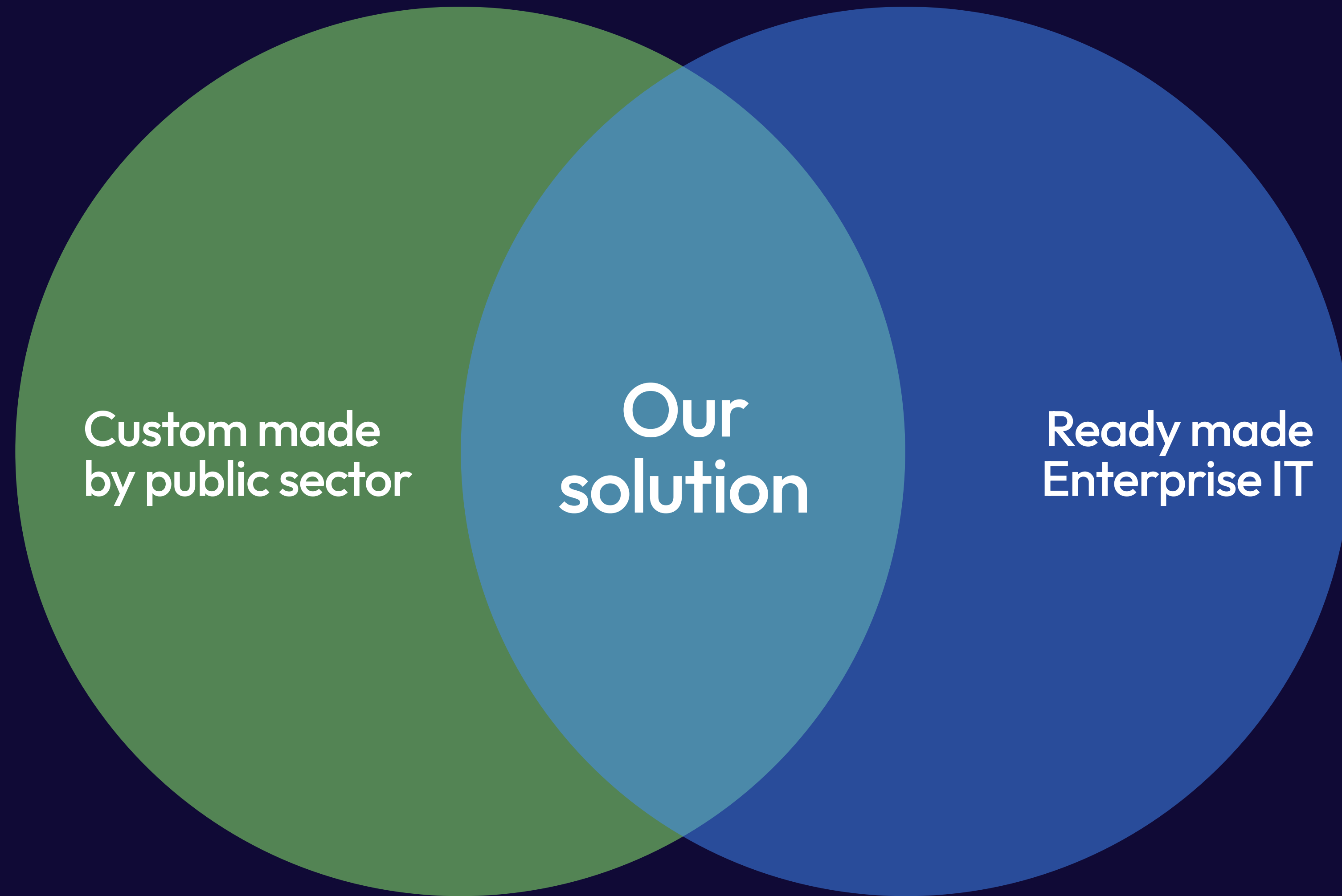
preferably open source

vs

Ready made  
Enterprise IT

established & accountable

# Tomorrow



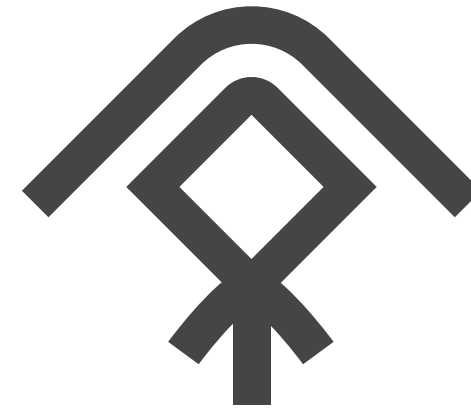




# Thingwalla

Democracy's marketplace





Imagine a platform that **eliminates complexity**, fosters **innovation**, and sets the **standard** for digital public services across **Europe**.

**Or some would say...**

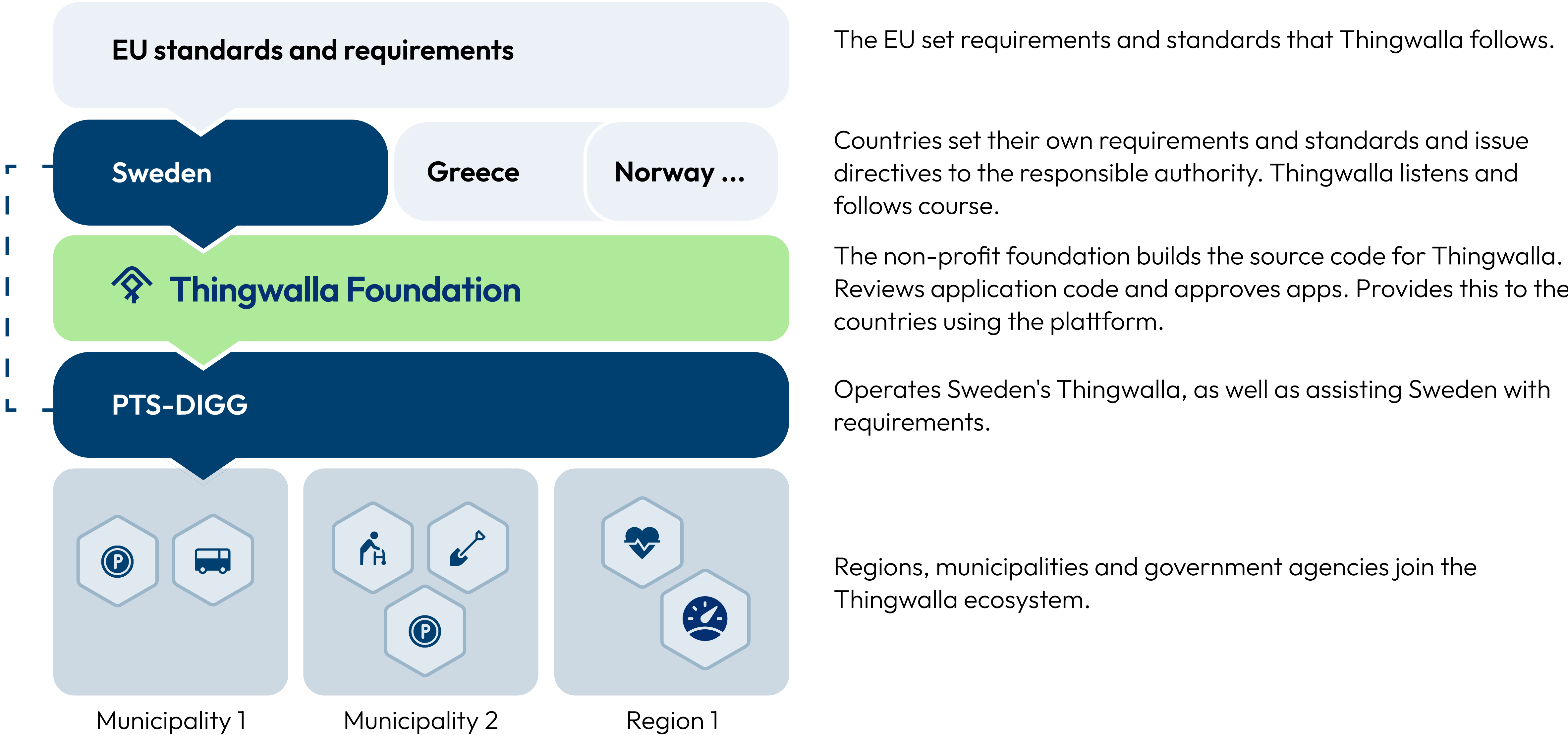
**The operating system\***  
**for European public digital services**

\*we are using “operating system” as a metaphor for a cloud based ecosystem,  
not as software on a single device



That's the **promise** of Thingwalla.

# Where does Thingwalla come in?





# **What is Thingwalla?**

## Design system & dashboard

**1-click**  
procurement

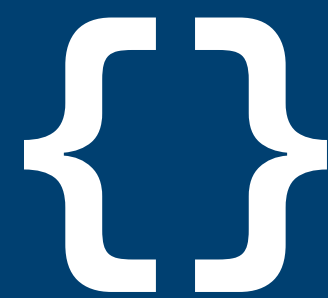


Automated  
compliance

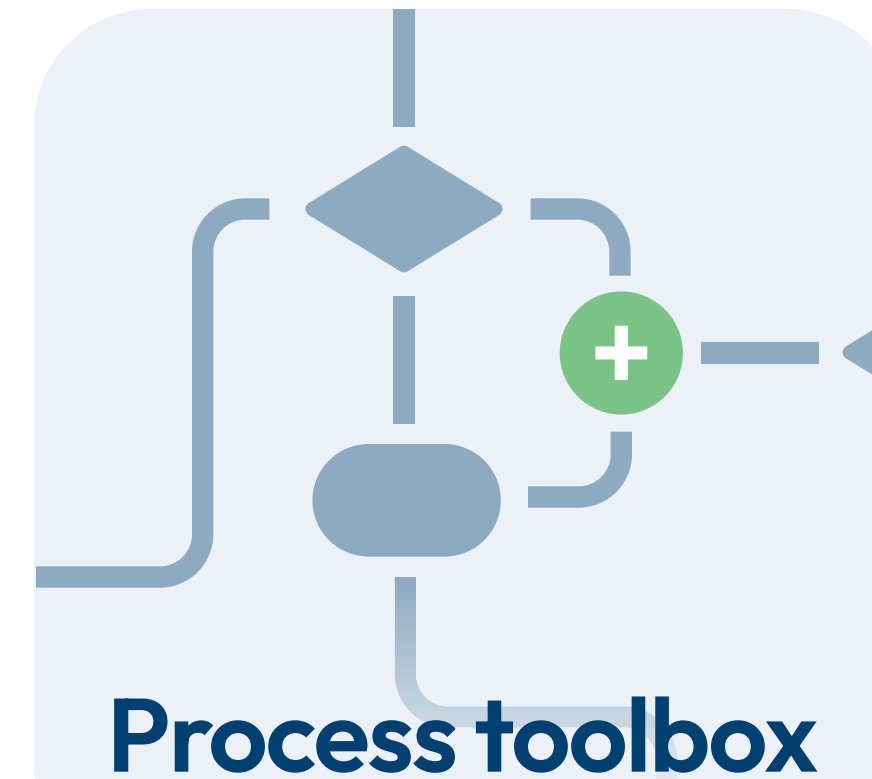


  
**Thingwalla**

**Developer  
portal**



**Process toolbox**



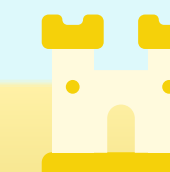
**Innovation  
procurement**



## Marketplace



**Testing  
sandbox**





Design system  
& dashboard

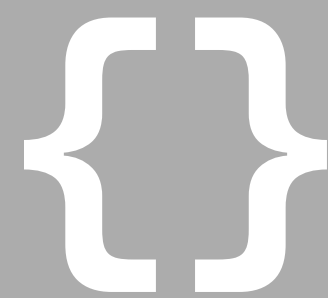
1-click  
procurement



Automated  
compliance

- ✓ WCAG 2.1
- ✓ GDPR

Developer  
portal



Process toolbox

Thingwalla



Marketplace



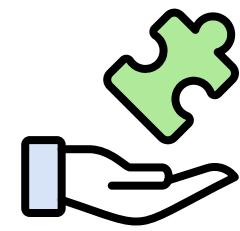
Testing  
sandbox



Innovation  
procurement



# The marketplace



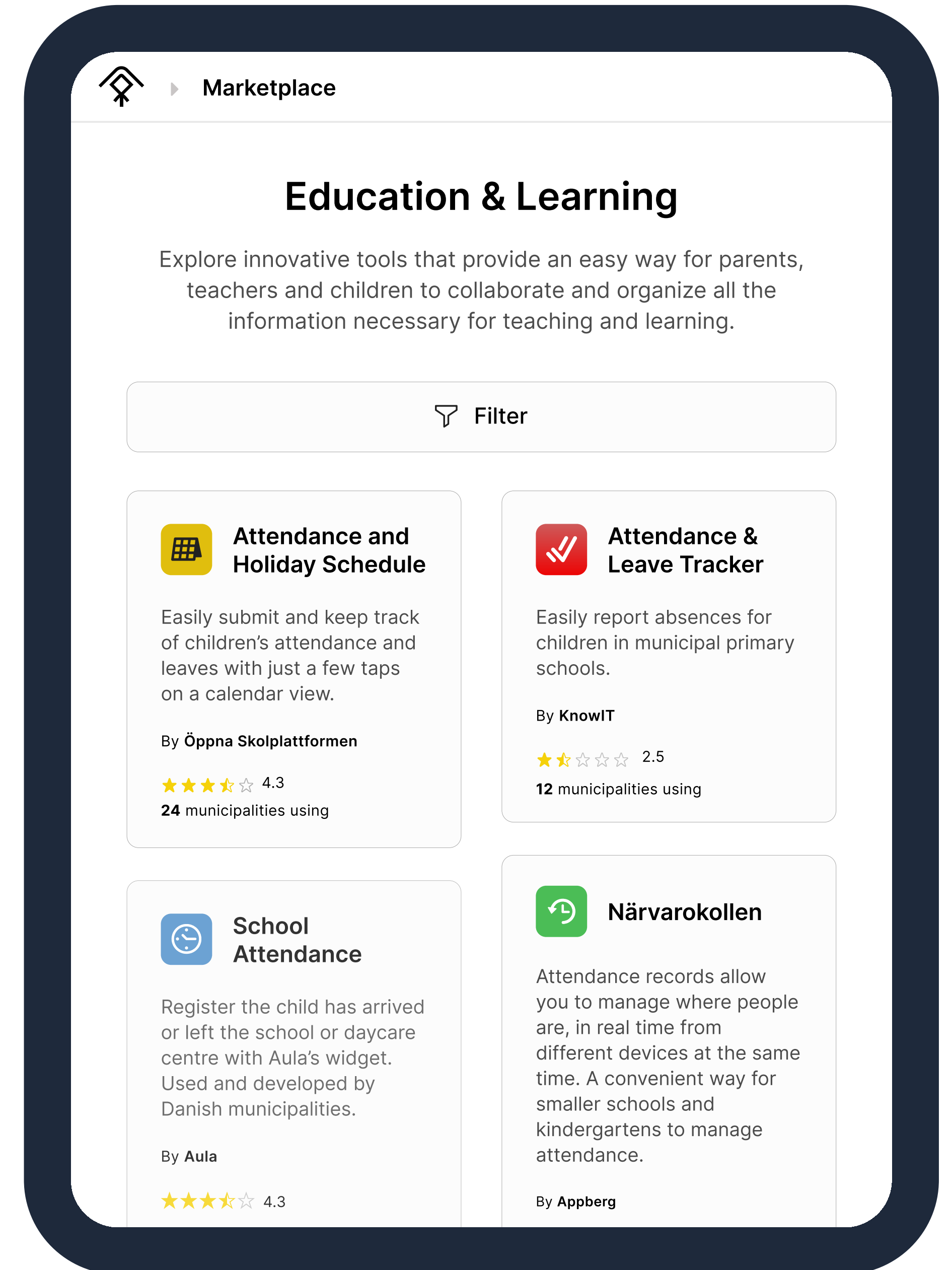
One-stop shop for all **digital services** building blocks



Searchable database of **existing solutions**, both public and private



Asses quickly what is worth adopting and **compare** solutions easily





# The marketplace

**Usage & endorsements** makes it fast and easy to find and compare great applications used by other municipalities.

**Compliance automation** ensures that all e-services adheres to your required security, best practices, standards and regulations.

**Application requirements** makes it easy for you to know if you can run the solution in your municipality.

 Marketplace



## Building Permit Calculator

This app simplifies the process for building permit applicants.

★★★★☆ 4.3 [Read Reviews \(19\)](#) Bygga & Bo

Used by 21 municipalities Published by Äventyret

A web app that guides you through the building permit process and shows you what you need to prepare before submitting an application.

[Demo](#)[Compare service →](#)[Request Feature](#)

### Compliance

✓ GDPR

✓ DORA

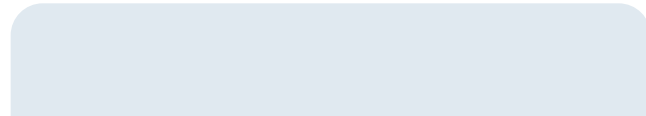
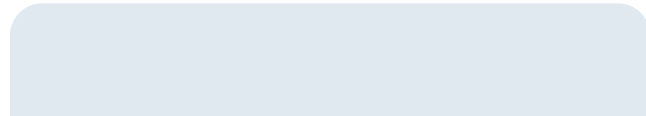
✓ WCAG 2.1

✗ ISO 9001

### APIs & Sources

[Lantmäteriet](#)[Google](#)[BankID](#)[Klarna](#)

### Screenshots





# Request new features in existing services

Or a customized version of an existing app that meets your own needs

Automated contract management & e-invoicing

## Request New Feature for Bygglovskalkylatorn

### Background

### Request to develop

### Criteria

### Compliance

✓ GDPR

✓ ARCGIS

✓ WCAG 2.1

+ Add more

### Invite vendors

|                                                               |                    |
|---------------------------------------------------------------|--------------------|
| <div><div></div><div>Äventyret AB<br/>524554-6687</div></div> | Invite <div></div> |
| <div><div></div><div>Optimal IT AB</div></div>                |                    |

# Design system & dashboard

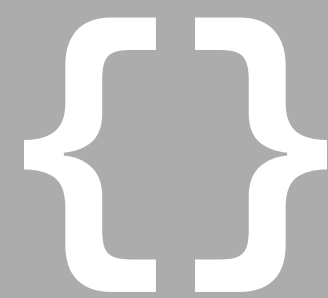
**1-click**  
procurement



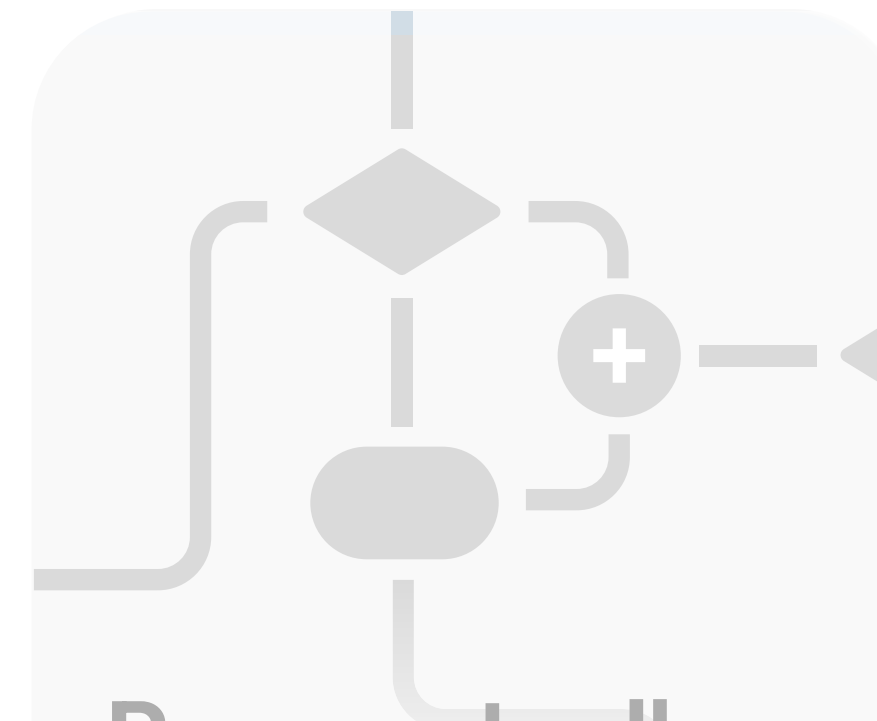
Automated  
compliance

- ✓ WCAG 2.1
- ✓ GDPR

**Developer  
portal**



Process toolbox



**Innovation  
procurement**



## Marketplace



Testing  
sandbox





# What is 1-click procurement?

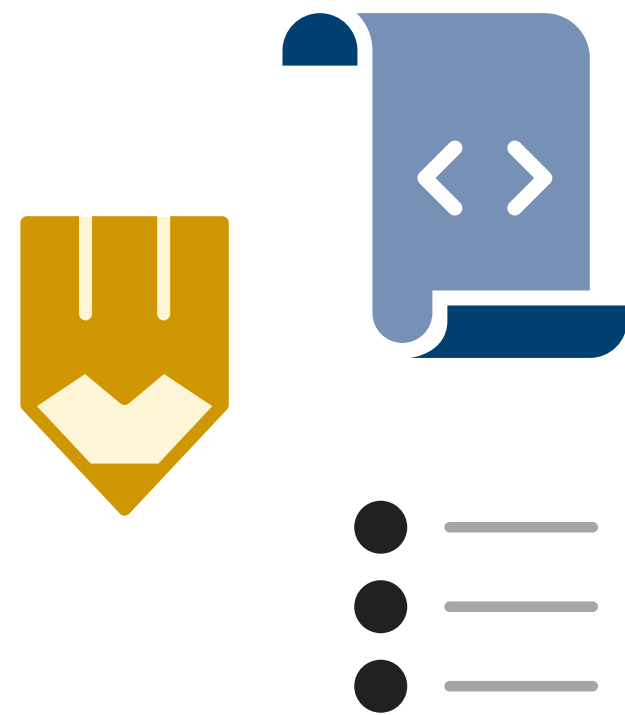
- Register in our DIS (Dynamic Purchasing System)
- Explore services and choose the one you'd like to use
- **Pick a contract or license plan**
- **Public procurement-compliant contract generates**
- **Contract signs digitally**
- **Order placement via Peppol**
- Digital service is activated and ready to use
- Test and use for your project!



**1-click**  
procurement

# Who can publish services in Thingwalla

Let more players develop services safely while guaranteeing quality, interoperability and safety standards.



**Anyone** who can code,  
design and follow guidelines  
can publish



Products that meet  
**Eligibility Standards**



Become a pre-approved  
**Thingwalla** vendor

# How do you publish services in Thingwalla

New services will undergo technical review in order to be included in the **Marketplace**. Eligibility may change over time as new best practices and standards emerge.



## 1. Prepare for Review

Prepare your digital service and documentation for submission.

[Tips for common Review Issues](#)



## 2. Submit Service

Submit your digital service for review.

[Check our Submission Guide](#)



## 3. Await Review

Your service will undergo review against Thingwalla Standards.

[About our Eligibility Standards](#)



## 4. Marketplace Ready

Your service is approved and added to the Marketplace and municipalities can start using it!



**Design system  
& dashboard**

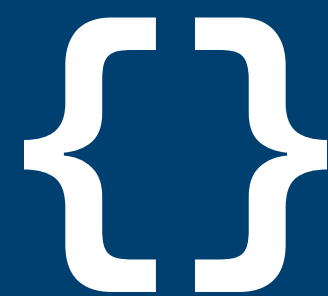
**1-click  
procurement**



Automated  
compliance

- ✓ WCAG 2.1
- ✓ GDPR

**Developer  
portal**



Process toolbox

**Marketplace**



Testing  
Sandbox



**Innovation  
procurement**



## Developer portal

All the tools, resources and support you need to create and deliver public services on municipalities' platforms.

High Quality  
**APIs**

Relevant  
**SDKs**

**Error handling Support**

**Design System**

**Citizens!**

**Civil Servants!**

**Utilities & Infrastructure  
providers**

**Digital services**  
built by both public  
and private players

Building permit

Tax declaration

Move abroad

Library system

Renew pass

Start a business

Urban mobility

Smart Metering



Compliance

Technology Guidelines

Design System

Certification & Qualification

E-catalogue & Marketplace

Innovation Procurement & Co-financing

Toolbox

**Standards, Data,  
Building blocks &  
Infrastructure**

Peppol

eID

MIMs

Data Spaces

GDPR

NIS2

X-ROAD

OAuth

WCAG

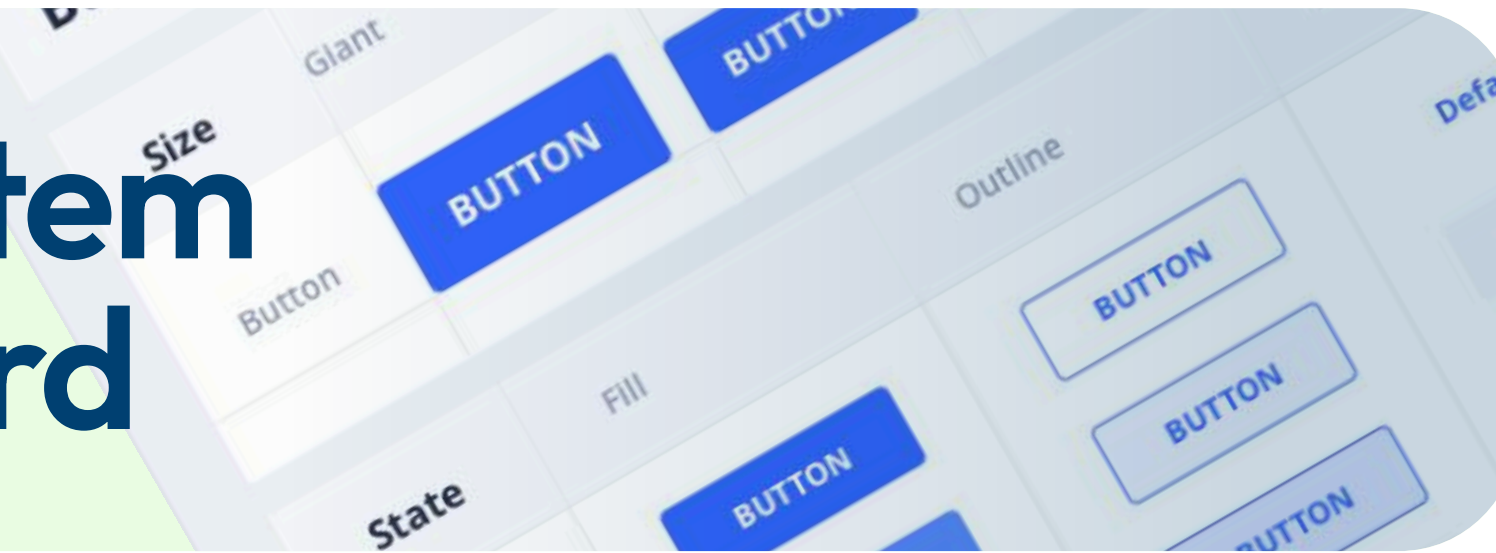
Sensors

eDelivery

AI Act



# Design system & dashboard



**1-click**  
procurement

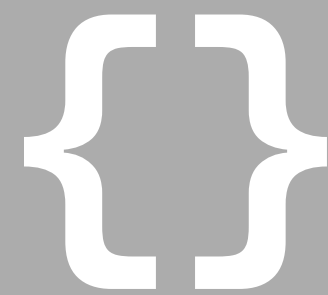


Automated  
compliance

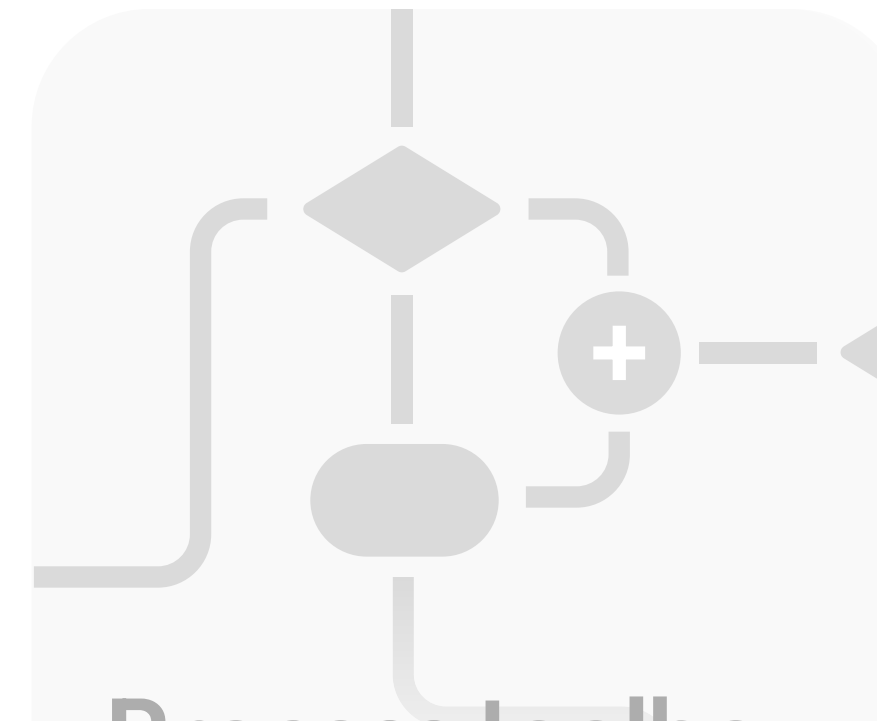
- ✓ WCAG 2.1
- ✓ GDPR

  
**Thingwalla**

**Developer  
Portal**



Process toolbox



**Innovation  
procurement**



## Marketplace



Testing  
sandbox

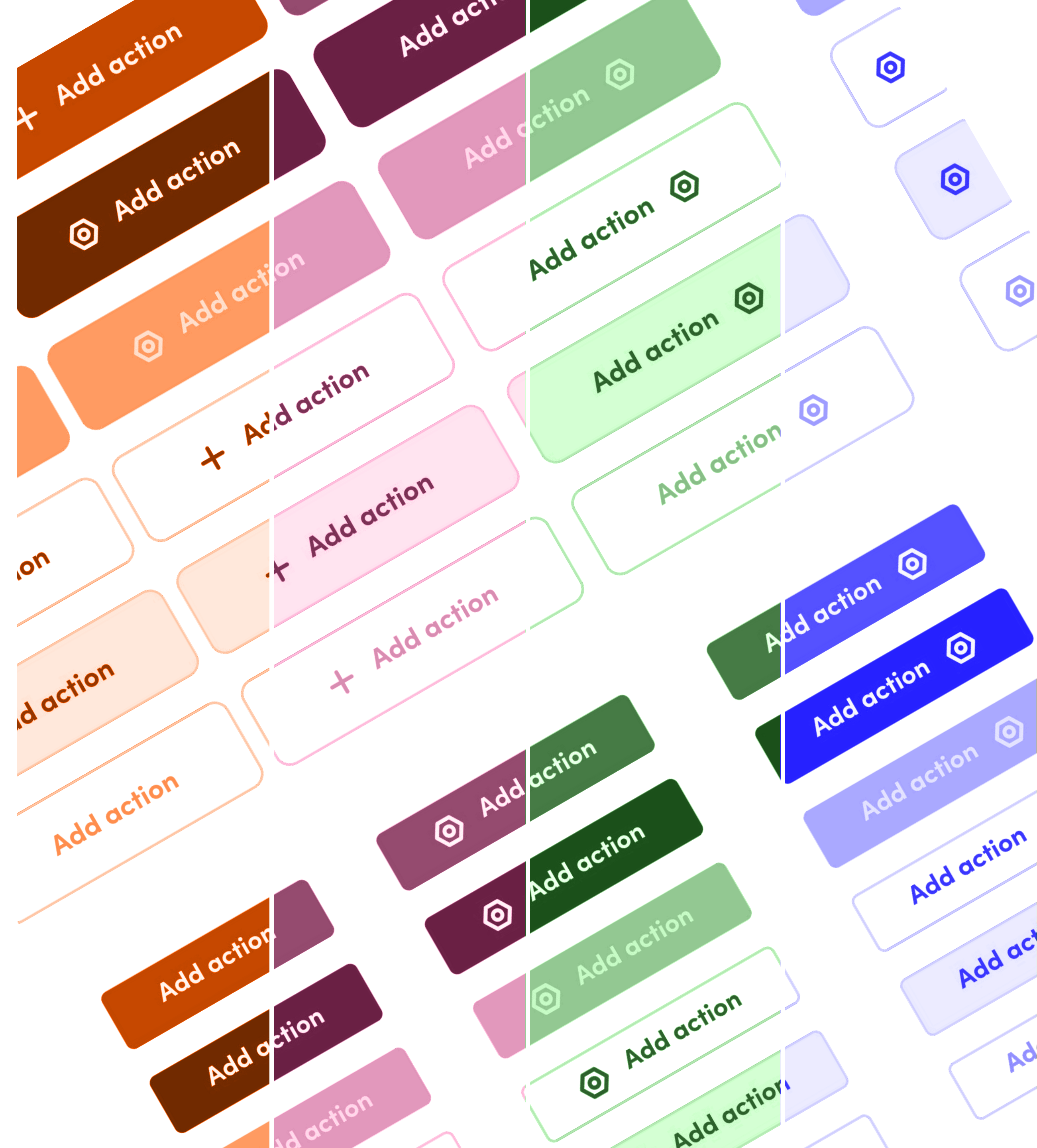


# Design system

Thingwalla's Design System forms the basis of **all user interfaces** available on the platform.

Providing a high quality user experience, with essential patterns for layout and interaction, **in line with accessibility standards.**

Makes **faster development** possible and creates a **unified experience.**



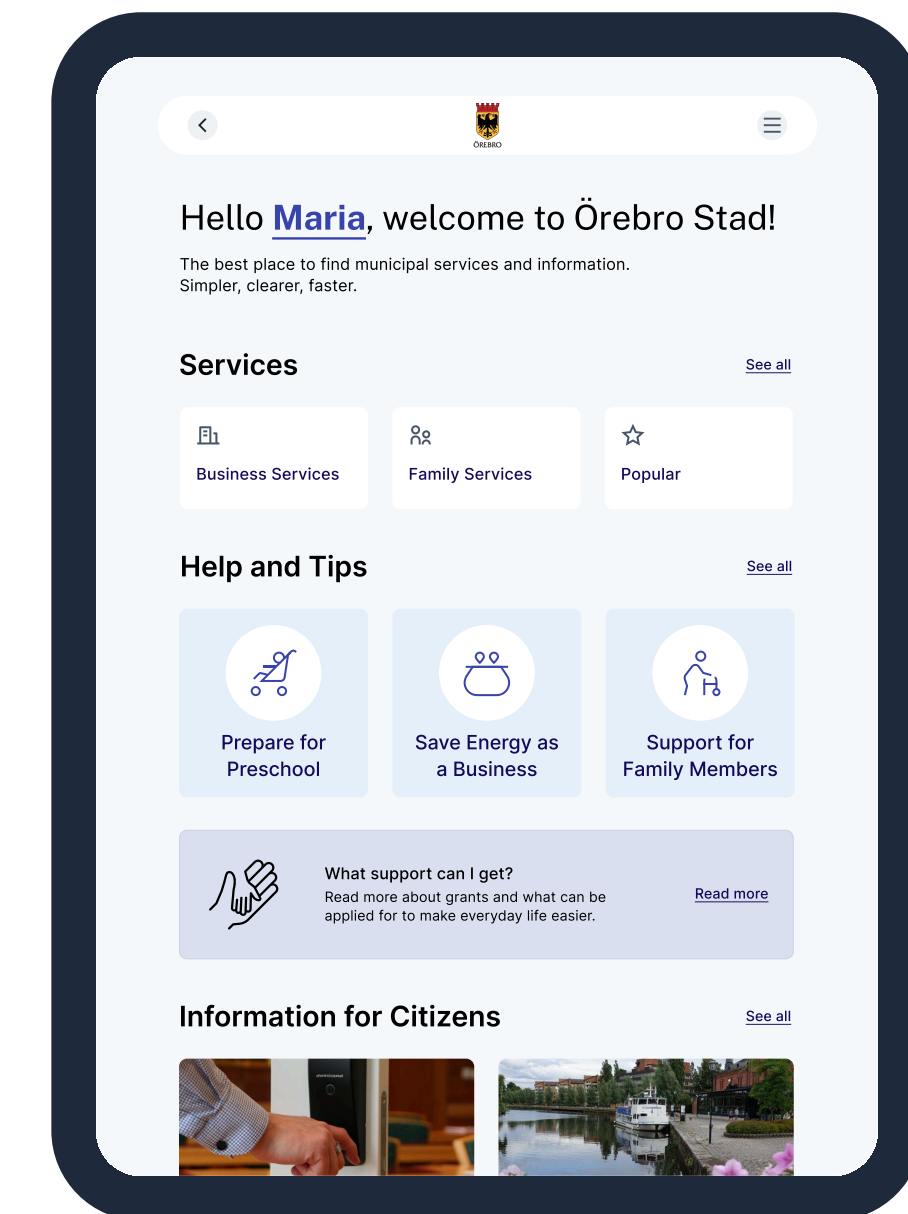
# Many vendors, same experience with Thingwalla's Design System



Services from  
**different vendors**



All using Thingwalla's  
**design system**



Apps “**unite as one**” in a  
consistent UI experience



Design system  
& dashboard

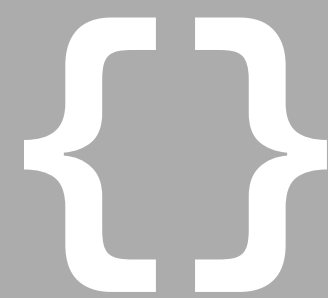
1-click  
procurement



Automated  
compliance

- ✓ WCAG 2.1
- ✓ GDPR

Developer  
portal



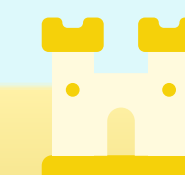
Process toolbox

Thingwalla

Marketplace



Testing  
sandbox



Innovation  
procurement



# Testing sandbox

## For developers

Easily test code and make sure all APIs are working as expected.

## For municipalities

Understand and configure your service before you make a commitment to buy and implement.







# Byteburg

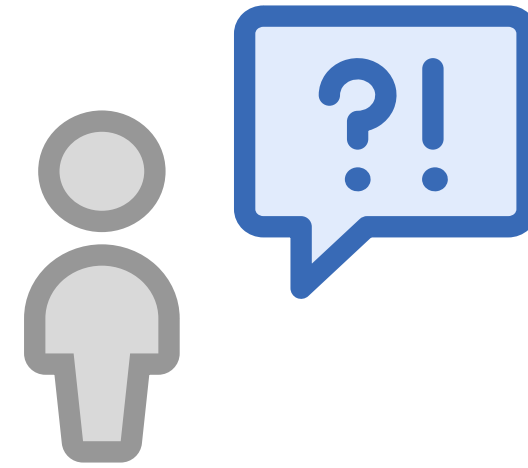
## Your virtual municipality

Within the sandbox, we have created a virtual municipality called Byteburg.

In Byteburg you can test new services without using real users data. Even though it doesn't exist for real, it lets you try new services in real-world scenarios and see how your end-user flow works before it goes into production.







What if **no one** has developed  
what we need?

**Design system  
& dashboard**

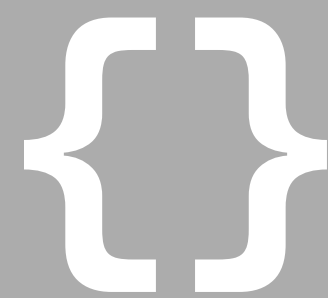
**1-click  
procurement**



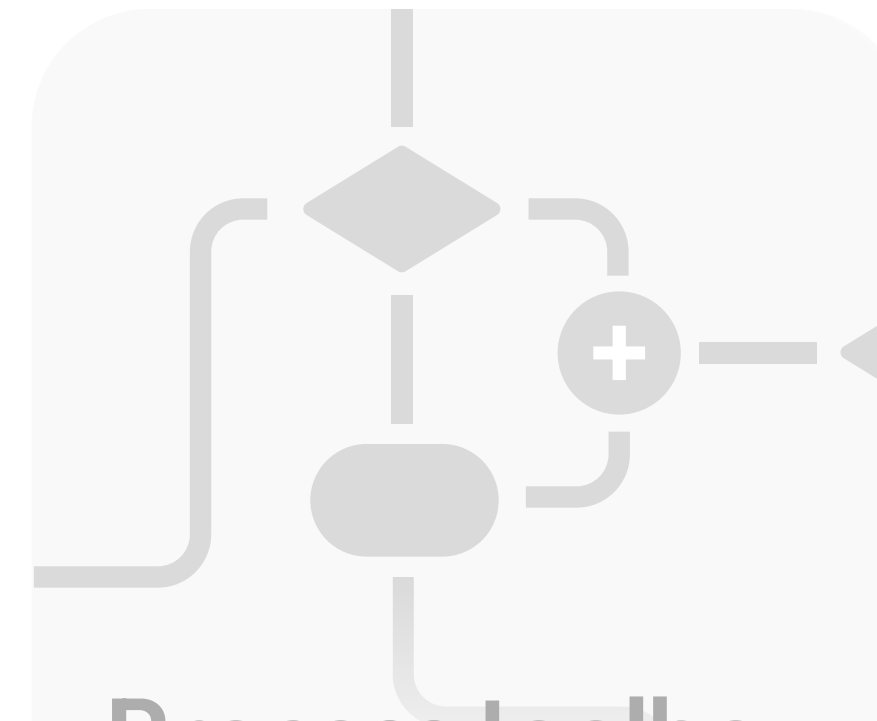
**Automated  
compliance**

- ✓ WCAG 2.1
- ✓ GDPR

**Developer  
portal**



**Process toolbox**



**Innovation  
procurement**



  
**Thingwalla**

**Marketplace**



**Testing  
sandbox**





# Innovation procurement

Smart templates for building solicitations. Drop-down builder for compliance requirements. Real-time collaboration and multi-user editing.

Pool resources with other municipalities and co-finance the development of custom-made solutions, like on Kickstarter and other crowdsourcing platforms.

Select projects based on Proof-of-Concepts and not on a written description with our Challenge-based Procurement process.

 All Challenges

## Innovation Challenges

List your public service challenge and crowdsource for innovative digital solutions from start-ups and technology providers.

Filter

### Autonomous Port Inspection

 75% funded  +9 Municipalities backing

Started by Göteborg Stad

Modernize the process of inspections, under and above water, in the port of Gothenburg, with the aim of allowing the process to be used autonomously by the port operator, to simplify planning for repair and management of port infrastructure.

Back this project

Apply to develop

### Identity Access Management for Social Services

 56% funded  +4 Municipalities backing

Started by Alingsås Kommun

An authentication and authorization method for social services employees that defines access roles, offers dynamic access control and assign permissions to users based on their roles within an organization.



# Innovation procurement: challenge-based tendering

Move away from laundry lists of features and functionality and let bidders come up with innovative solutions in response to problems.



## Define challenge

Ask vendors to respond to a problem statement without specifying the technologies or solutions.

## Participants submit a Proof-of-Concept bid

Ask your vendors to 'show' how they'd solve the problem instead of 'telling' what they've done in the past.

## Winner builds a Prototype

Test the shortlisted PoCs to provide specifications for a real, working system instead of a theoretical one.

## Test the Prototype in a Pilot

Trial solutions through validation tests before deciding on the best solution for deployment.

**Design system  
& dashboard**

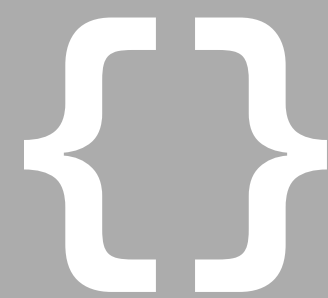
**1-click  
procurement**



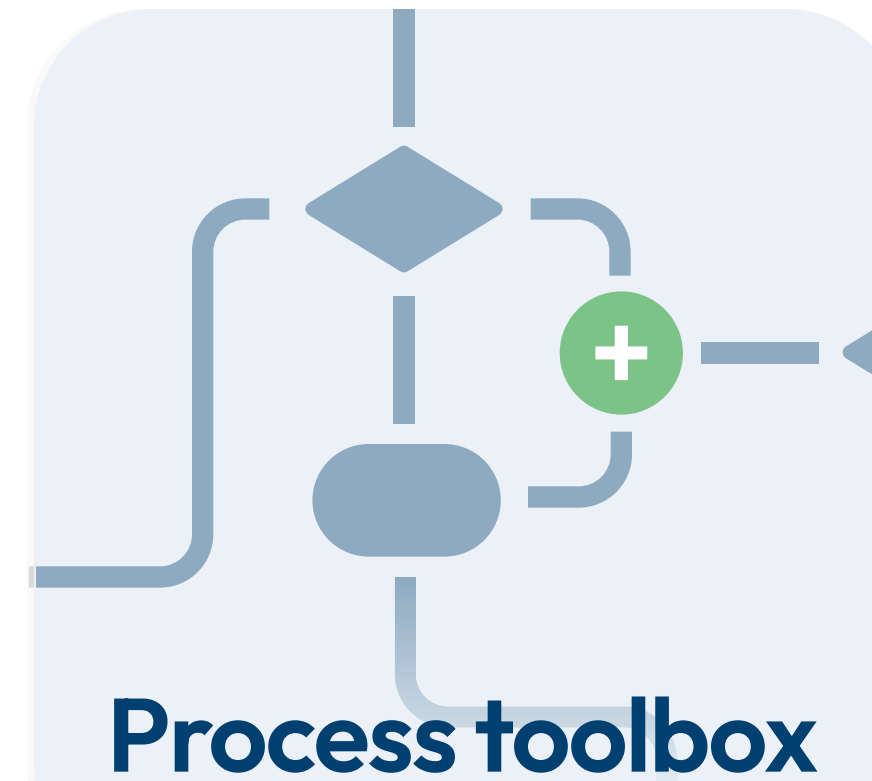
Automated  
compliance

- ✓ WCAG 2.1
- ✓ GDPR

**Developer  
portal**



**Process toolbox**



**Marketplace**



Testing  
sandbox



**Innovation  
procurement**

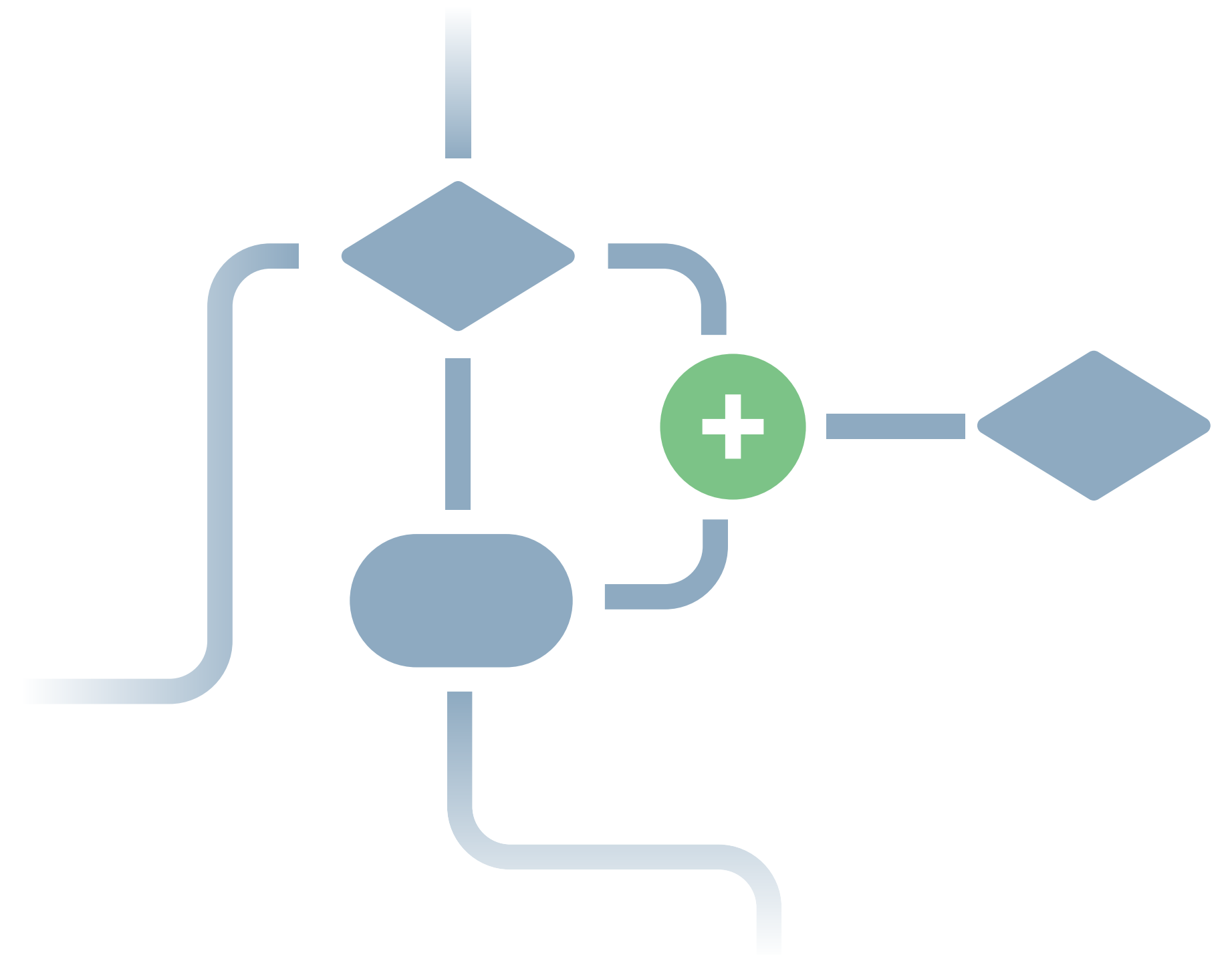


## Process toolbox

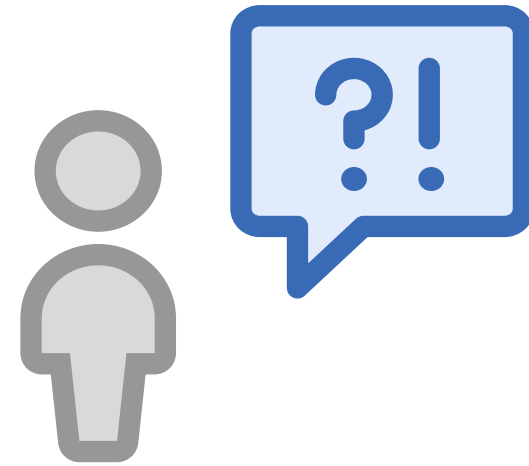
Accelerate your Thingwalla **adoption** with tailored resources that empower teams and streamline digital transformation.

From ready-to-use **workshops** and hands-on **training** modules to **diagnostic** templates for assessing needs, the Process Toolbox ensures seamless onboarding and integration.

Designed for **simplicity** and **impact**, it drives alignment, fosters effective **collaboration**, and supports lasting **change management**.

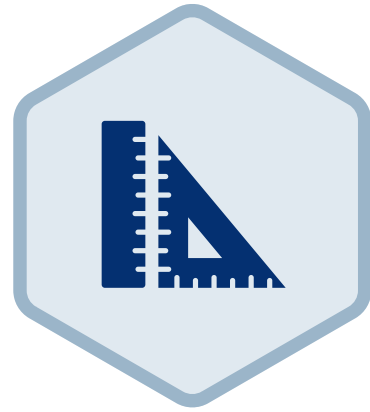






What if public digital services had an  
**operating system** designed to ensure  
**seamless integration, high security**, and  
unmatched **scalability**?

# How Thingwalla delivers on this vision



## **Adaptations**

How can suppliers tailor their solutions to seamlessly integrate with existing IT ecosystems? Thingwalla supports design system alignment and cross-platform compatibility.



## **Rules and regulations**

How can public services ensure compliance with vital standards like GDPR and WCAG? Thingwalla embeds regulatory frameworks to streamline adherence.



## **Operation and maintenance**

How can apps remain secure, scalable, and reliable over time? Thingwalla provides ongoing support for hosting, bug fixes, and operational upkeep.

**A significant portion of the cost and effort to build digital solutions falls into the secondary requirements of running a digital service**





# What happens when we scale up this model with more apps?



The **complexity** of this model grows **exponentially**  
making it both **costly** and **labor-intensive**.



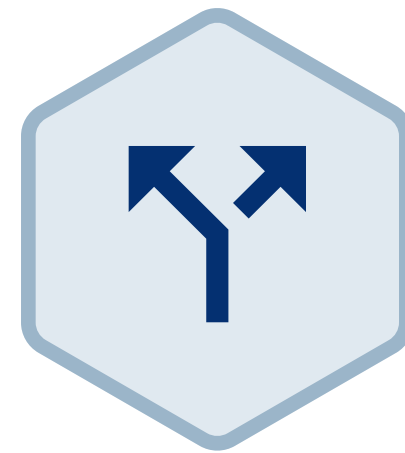
# There are a number of options to address this complexity but none are particularly ideal



## **Vendor lock-in**

A vendor commits to managing the secondary requirements.

Innovation and development become tied to the vendor's internal priorities.



## **Compromising on features**

For example, compromising on customizations and design systems.

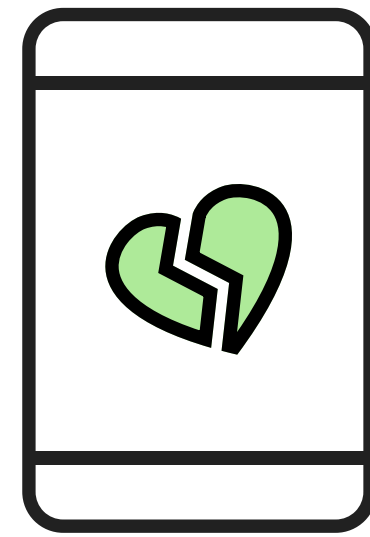
Results in a diminished user experience.



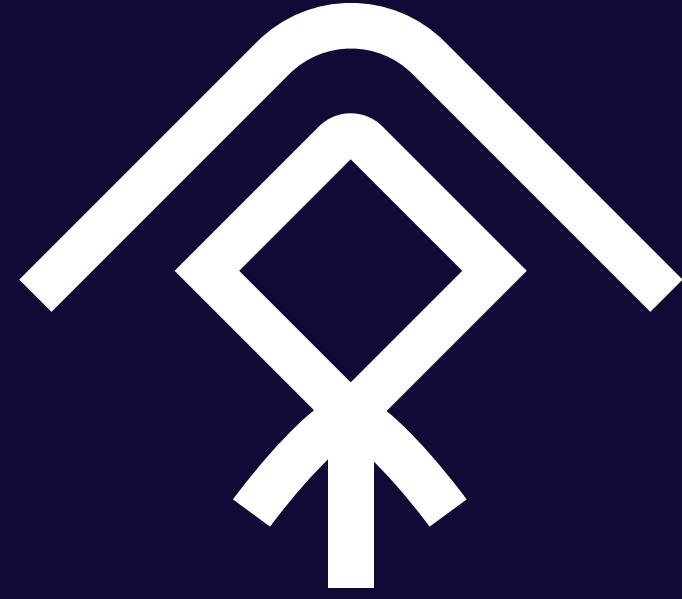
## **Accept growing complexity**

Scale up and expand the organization.

This, of course, entails increased costs.



The **fragmentation** and inefficiency of **current systems** call for a transformative approach.



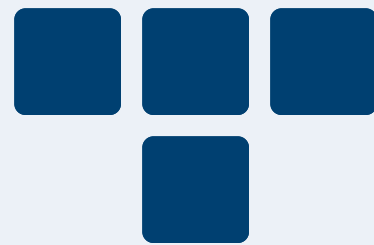
Thingwalla serves as the  
**operating system** to **unify**  
and **simplify** digital public  
services across Europe.



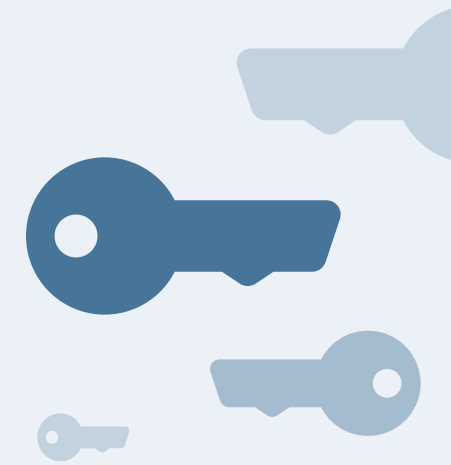


Built on  
**Open source  
infrastructure**

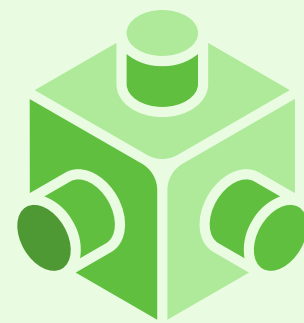
**Modular  
architecture**



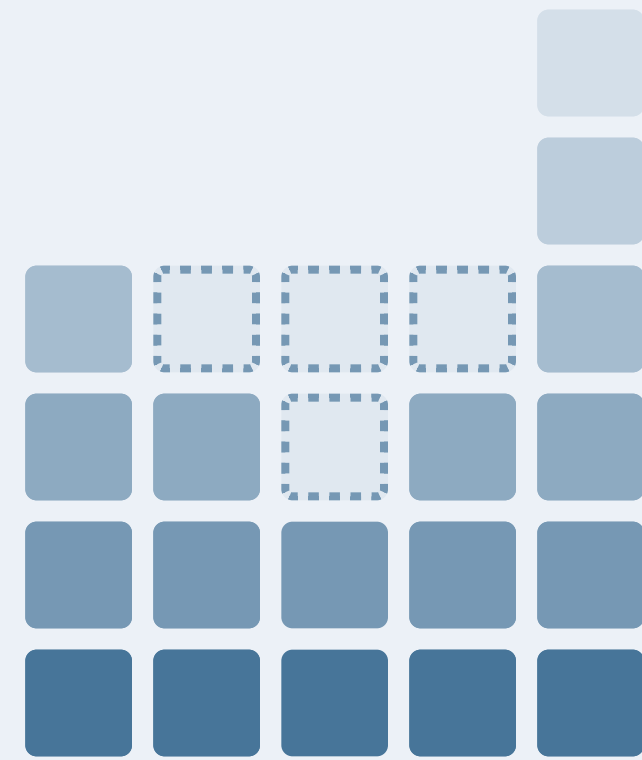
**Security**



**Scalability**



**Plug & Play**  
technology



**Containerization**



**Focus on core  
operations**

**Reliability**





## Modular architecture

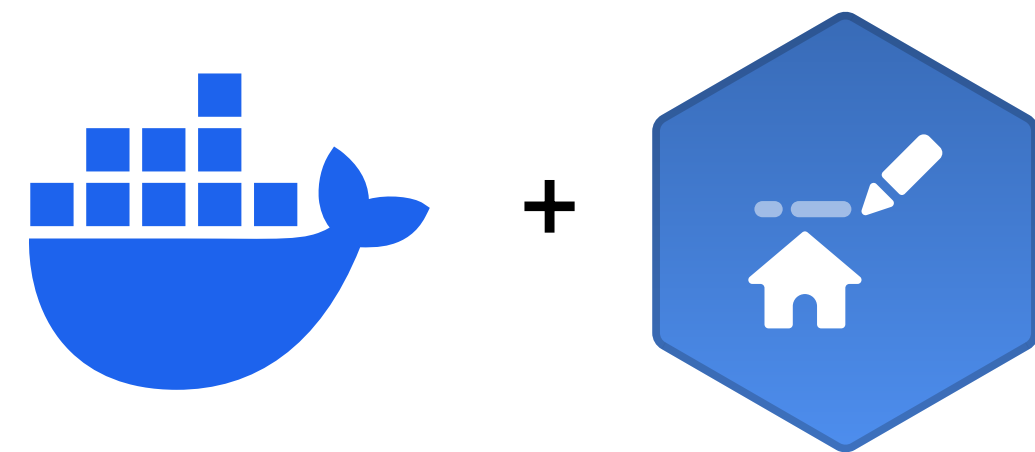
Each Thingwalla app is built with two key components:



**Primary Functionality:** The app's core purpose.

**Thingwalla Module:** A secondary module added as a container sidecar, handling integration, compliance, and scalability.

## Containerization for efficiency



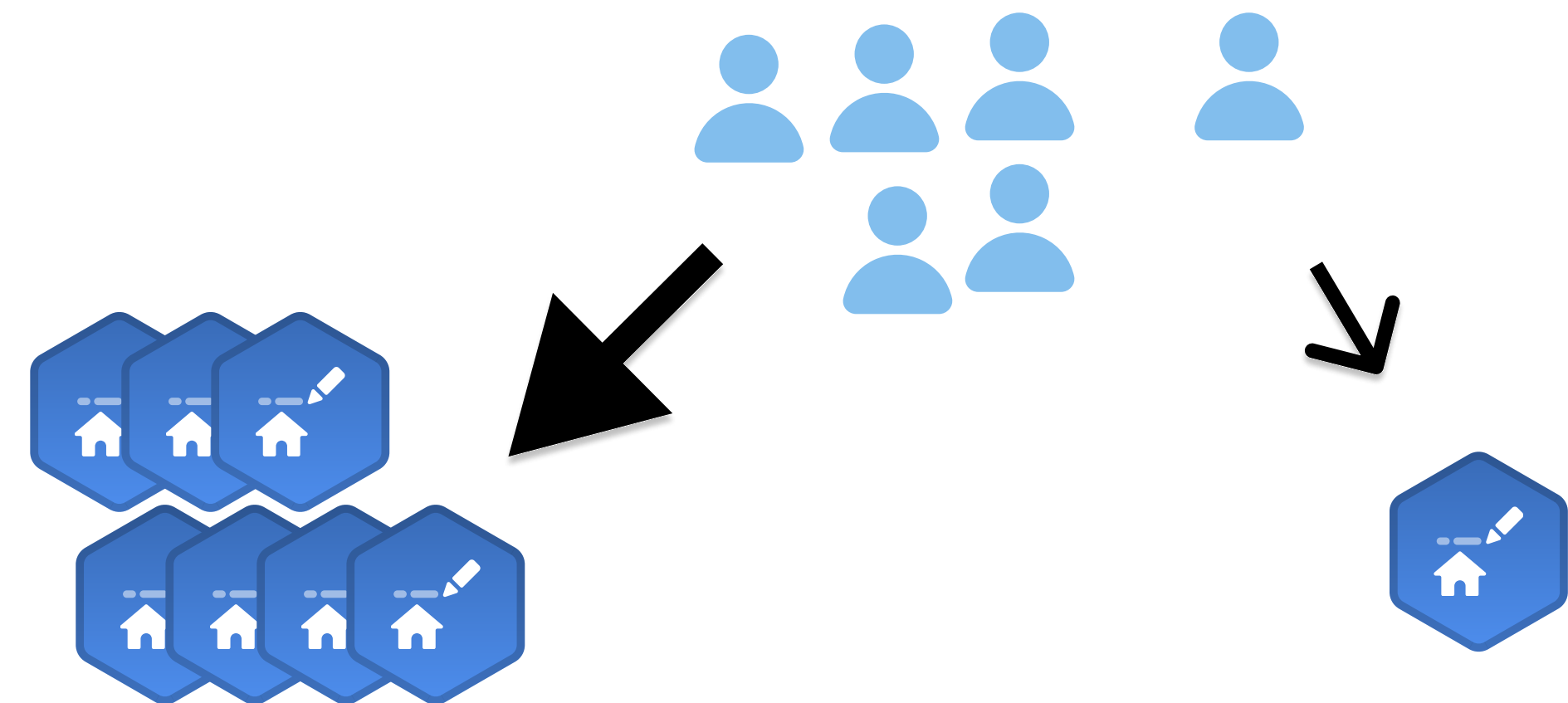
Apps are packaged and deployed using the **Open Container Initiative (OCI) standards**, ensuring consistency and compatibility.

 **kubernetes**

The **Kubernetes cluster** manages all apps, providing scalability, reliability, and resource optimization.

## Scalability

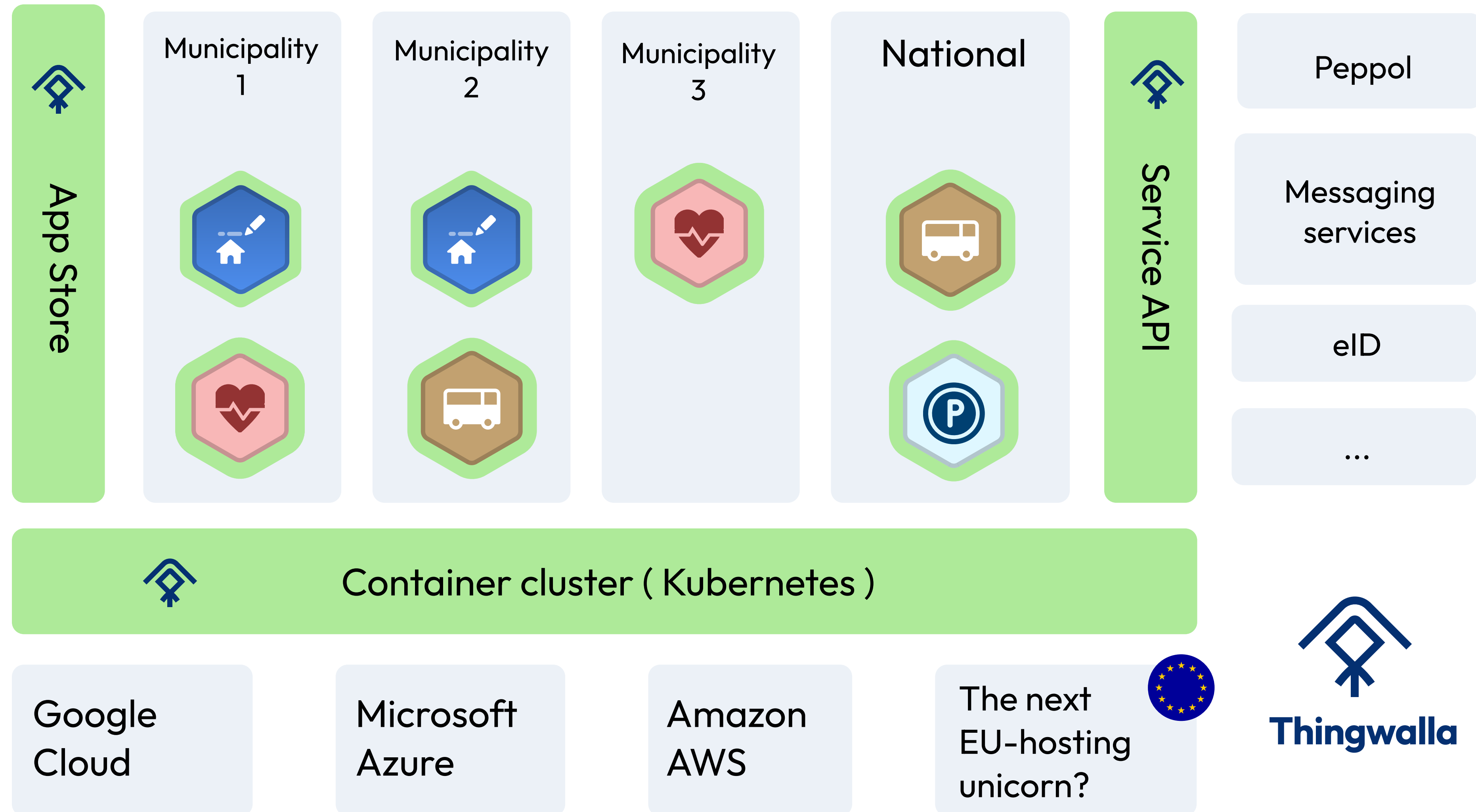
Thingwalla's use of Kubernetes ensures that scalability is built into its core, enabling municipalities to adapt to changing traffic and operational needs without disruption



Kubernetes Cluster



# A unified ecosystem for public digital services

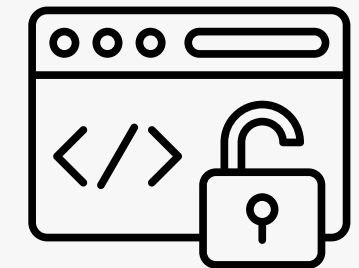






## Built on open source infrastructure

The timeframe of ongoing developments at the EU, national, and regional levels highlight the importance of basing our technology choices on open standards and decentralized solutions to avoid vendor lock-in.



**Language-agnostic ("code in the language you know")**

**Hosting-independent (not tied to a single provider)**

**Plug'n Play via well-defined Thingwalla APIs**

**Established security audits of Thingwalla as a platform**

## Security

Thingwalla is based on established standards and open technologies, enabling comprehensive security audits by external parties. In addition to this, Thingwalla leverages the platform's built-in security aspects.



**Container** - The code layers are scanned for known **security vulnerabilities**.

**Istio** Service Mesh - All traffic is **encrypted** (TLS).

**Kubernetes** Cluster - All apps are **isolated** processes.

Public **Cloud** - Security as a service - **Zero trust** configuration

## Focus on core operations

By handling secondary requirements—such as GDPR compliance, design system integration, and testing—Thingwalla allows municipalities and developers to focus on delivering high-quality, citizen-centered services.

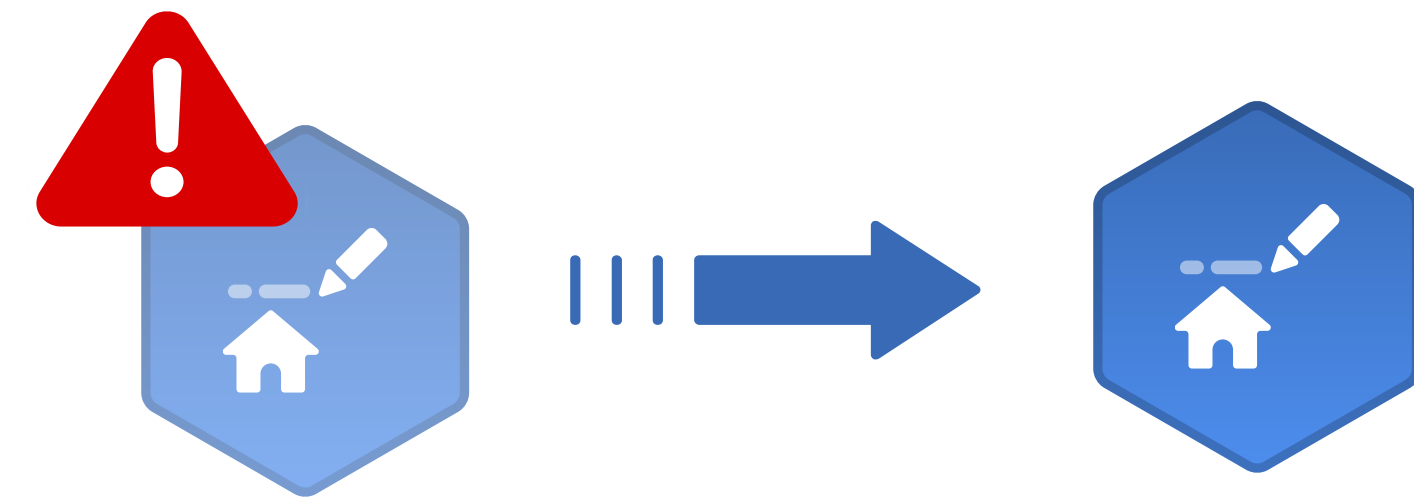




## Reliability

Thingwalla has multiple levels of system monitoring to ensure everything operates as intended, ensuring reliability through proactive monitoring and automated issue resolution.

By handling secondary requirements such as GDPR compliance and operational monitoring, it enables municipalities to focus on their core mission of serving citizens.



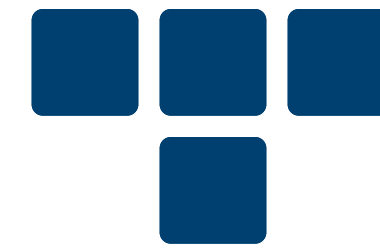
**Kubernetes**

Automatic monitoring and action on operational outage.

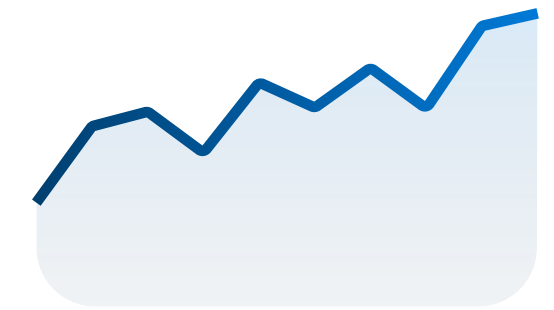


## Secure, reliable – and at scale

By combining these capabilities, Thingwalla creates a robust and flexible ecosystem that empowers public institutions to deliver exceptional digital services.



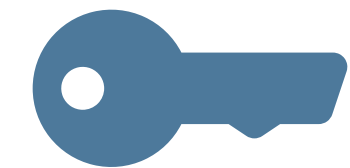
Modular architecture  
enables **integration**



Operational focus  
guarantees **reliability**



Containerization supports  
**scalability**

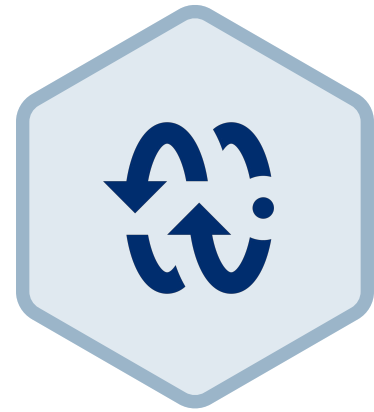


Open-source infrastructure  
ensure **security**

# Thingwalla: The key to smarter public digitalization



**Reinventing public digitalization** using cutting-edge simplicity, enabling governments to focus on what truly matters—serving citizens.



**Streamlining operations**, boosting collaboration, and empowering public services to shed inefficiency and embrace innovation.



**Unlocking opportunities** for real innovators, building a robust foundation for a democratic, future-ready digital government.

# Ready to redefine digital public services?



Get your organization onboard  
by signing our pledge



Fund the development



Subscribe to our newsletter



**thingwalla.eu**