



Ríaltas na hÉireann
Government of Ireland

Better Public Services

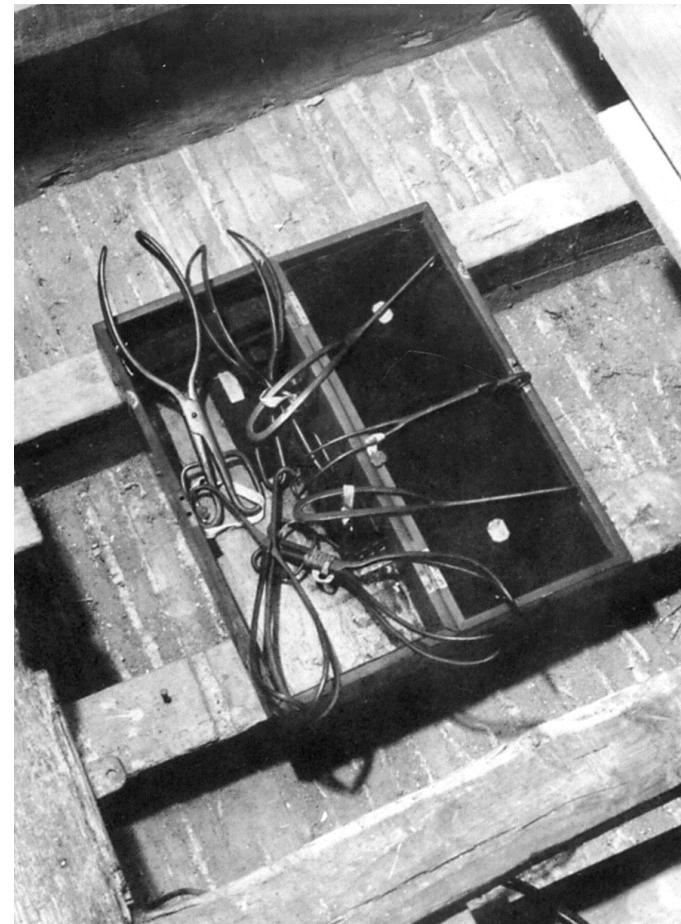
Towards Wellbeing with Digital Public Infrastructure

(aka Open Source Building Blocks for Government)

Tony Shannon
Head of Digital Services
Office of Government Chief Information Officer



One Story...



Another Story...



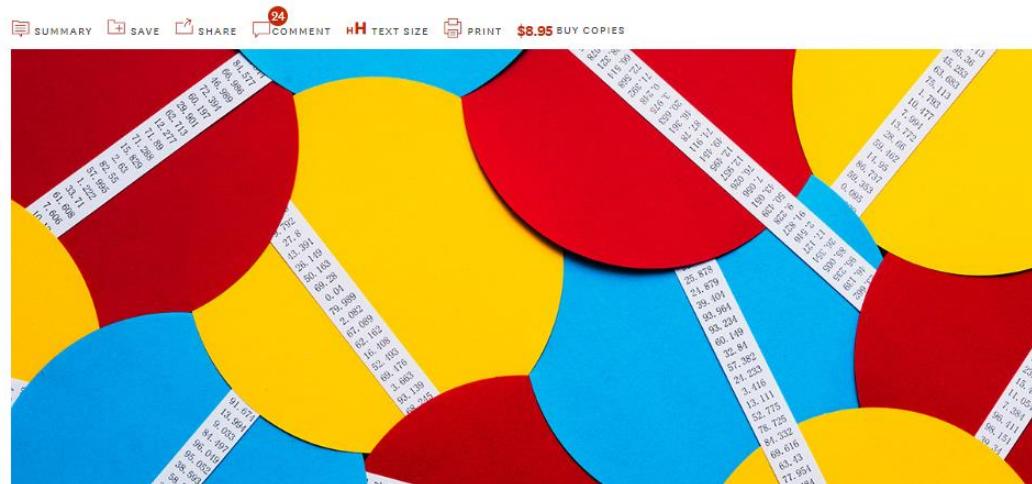


TECHNOLOGY

To Combat Physician Burnout and Improve Care, Fix the Electronic Health Record

by Robert Wachter and Jeff Goldsmith

MARCH 30, 2018



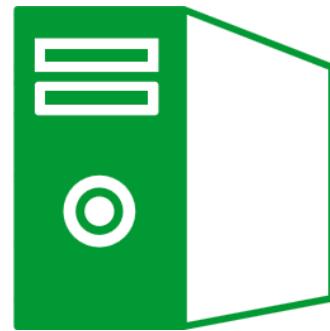
An old-school fix to doctors' tech woes: Medical scribes

by Claire Zillman @clairezillman JANUARY 9, 2015, 5:00 AM EST





User Interface



Health Information
Exchange



Clinical Data
Repository



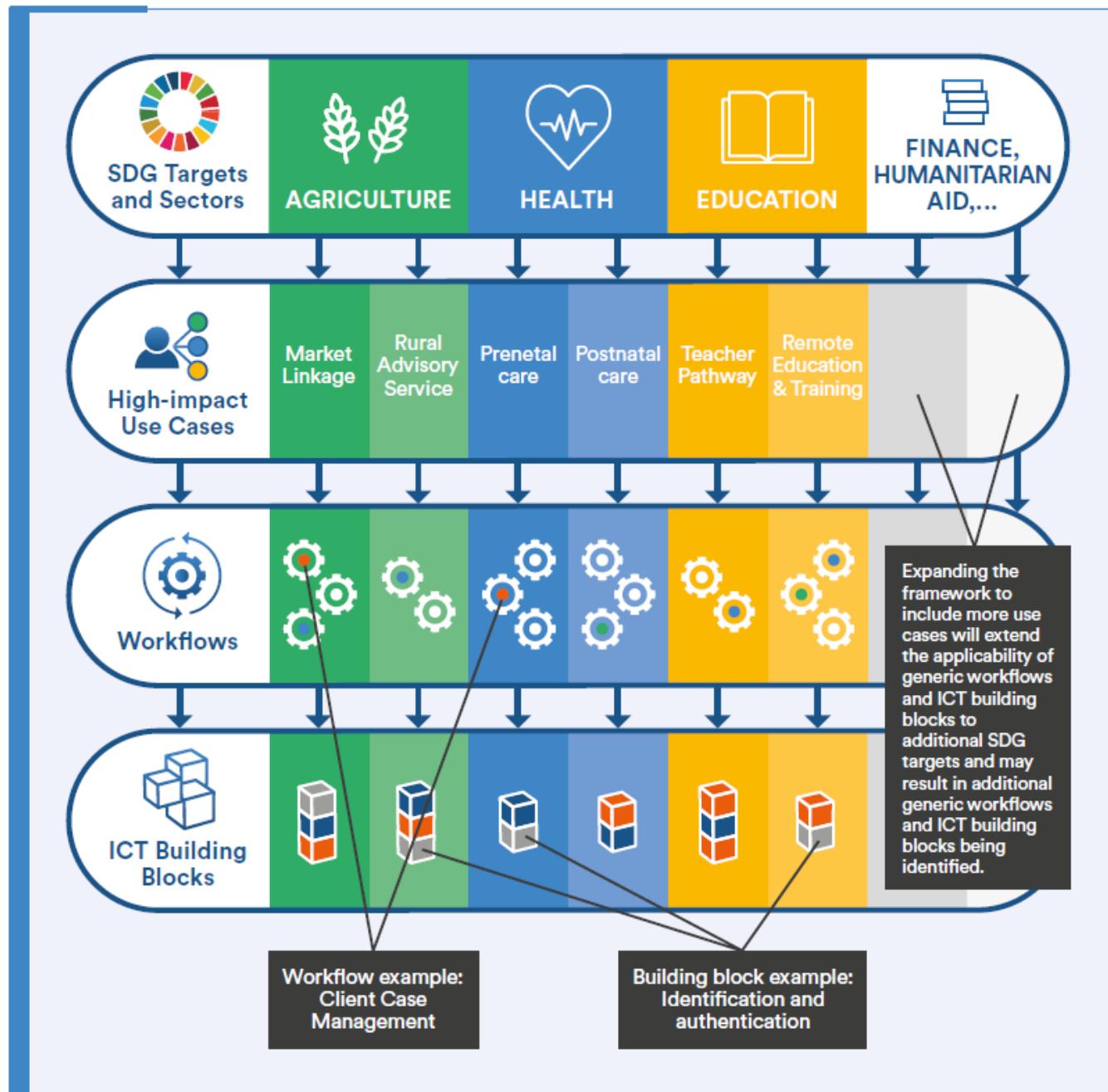


SDG Digital Investment Framework

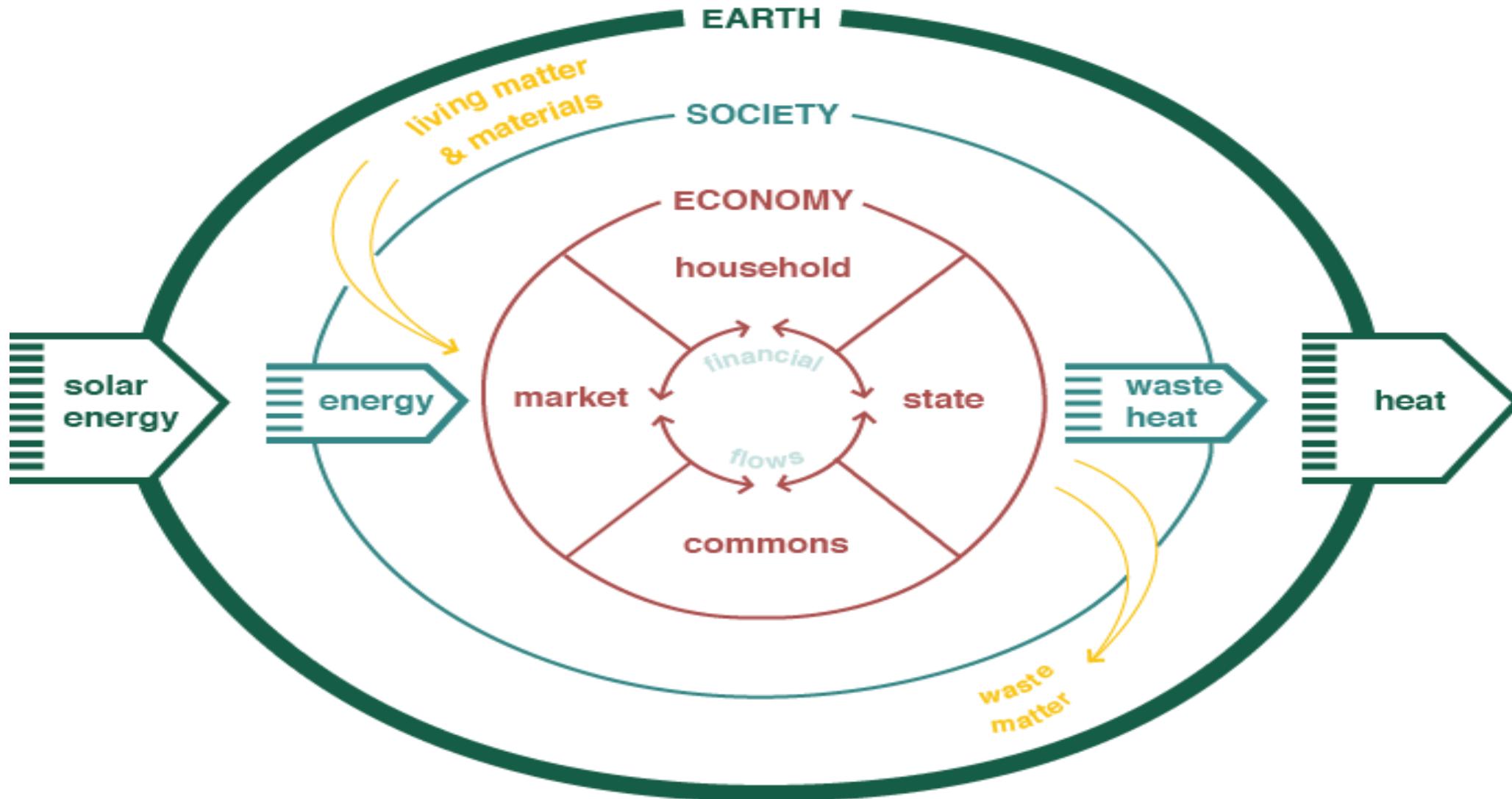
A Whole-of-Government Approach to Investing in Digital Technologies to Achieve the SDGs

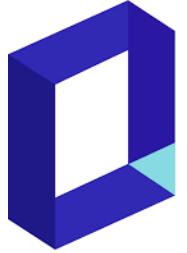


FIGURE 2. Example architectural map using the SDG Digital Investment Framework



21st Century SocioEconomics





Digital
Public
Goods
Alliance

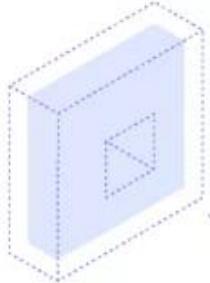
Digital Public Infrastructure

Solutions and systems that enable essential, society-wide functions and services

DPGS AND BUILDING BLOCKS CAN BE
IMPLEMENTED AS PART OF A COUNTRY'S DPI

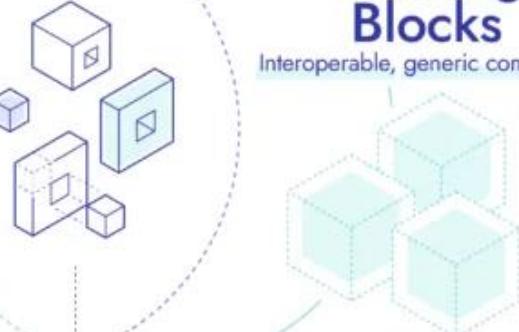
Digital Public Goods

Open license, SDG relevant



Building Blocks

Interoperable, generic component



Interoperable open source solutions that are relevant to the SDGs and have generic components may be both Building Blocks and Digital Public Goods

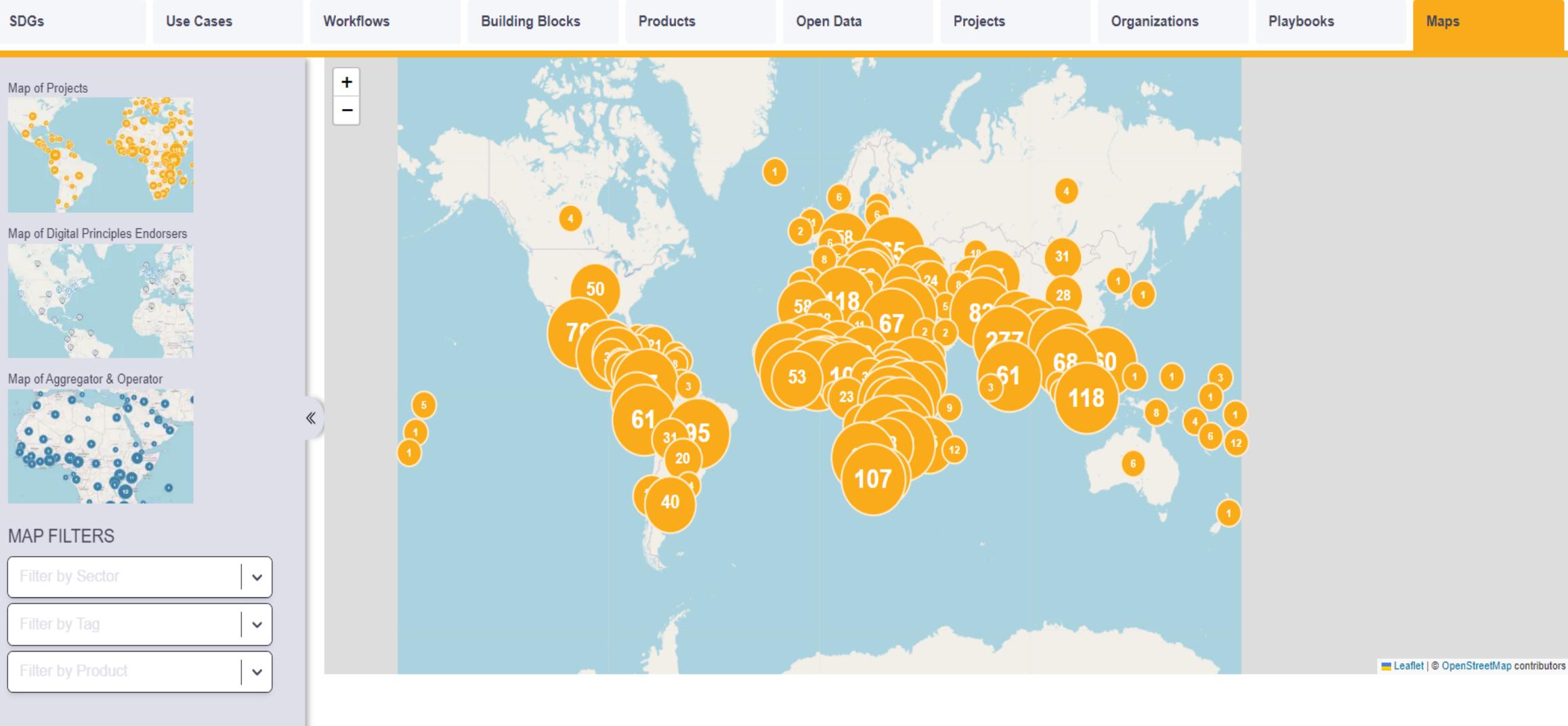
Design With the User	Understand the Existing Ecosystem	Design for Scale
Build for Sustainability	Be Data Driven	Use Open Standards, Open Data, Open Source and Open Innovation
Measure and Improve	Address Privacy & Security	Be Collaborative



GovStack

Digital Investment Framework 

[Launch Recommendations Wizard](#)



Components in the Commons

Digital Impact Alliance
Catalog of Digital Solutions

Digital Investment Framework 

Resources  About  Sign Up or Log In Help  Select Language 

Launch Recommendations Wizard

SDGs Use Cases Workflows **Building Blocks** Products Open Data Projects Organizations Playbooks Maps

Building Blocks 23 

BETA Analytics and business intelligence 	BETA Artificial intelligence 	BETA Client case management 	BETA Collaboration management 
Workflows  Products OpenLMIS	Workflows    ... Products Afinidata Bothub Rasa TensorFlow ...	Workflows    ... Products CommCare Primero Avni OpenLMIS ...	Workflows  Products N/A
BETA Consent management 	BETA Content management 	BETA Data collection 	Digital registries 

digital impact alliance

Towards 2030: Decade of Digital & Green







Better Public Services

A transformation strategy to deliver for the public and build trust



Prepared by the Department of Public Expenditure, NDP Delivery and Reform
gov.ie

Digital and Innovation at Scale



The Public Service will work together to

- Tackle big societal issues and drive societal change
- Achieve a seamless user experience and inclusive service delivery
- Provide a dynamic and agile workplace

A Public Service that:

- Builds trust in public institutions
- Focuses on outcomes
- Delivers climate action and sustainability



Life Events

Life events refer to significant experiences or changes in an individual's life that can have a profound impact on their circumstances and/or well-being. These events often necessitate interactions with multiple services or agencies



Renting, Buying,
Moving House



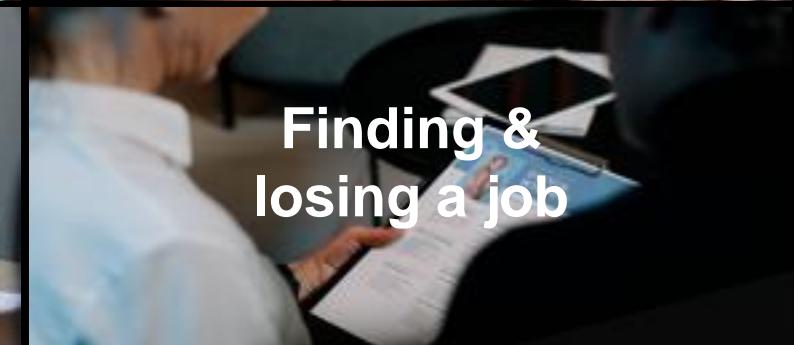
Having a baby &
early childhood



Owning &
Driving a Car



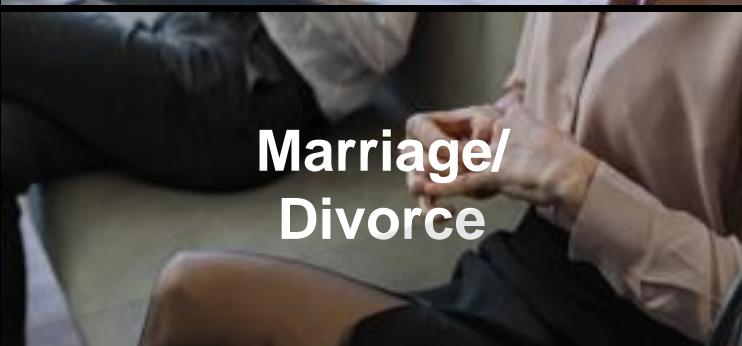
Setting up a
Business



Finding &
losing a job



Moving to
Ireland



Marriage/
Divorce



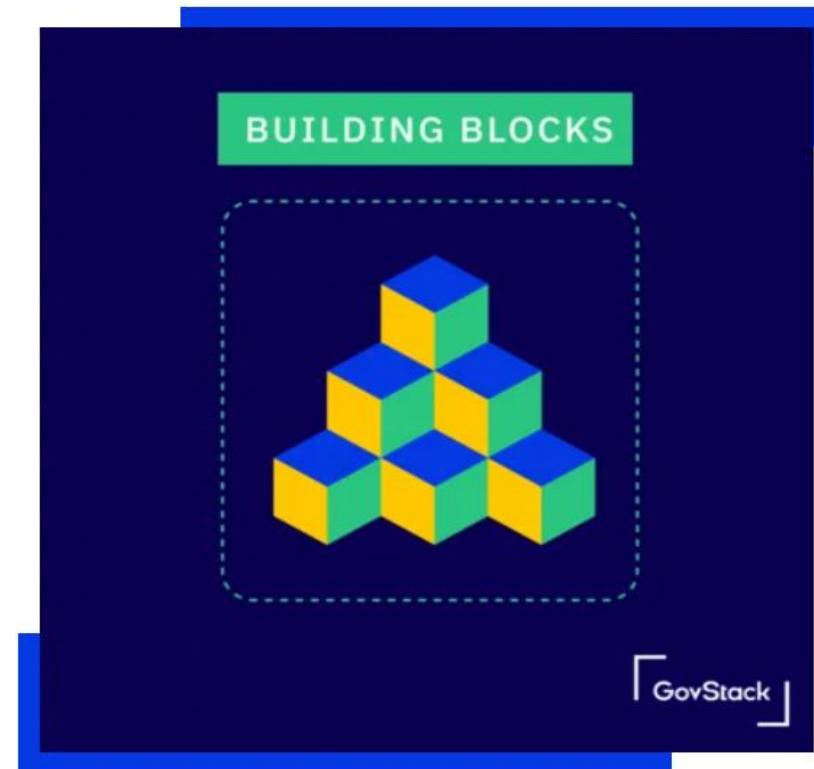
End
of life

What are Building Blocks?

Building blocks are enterprise-ready, reusable software components that provide key functionality facilitating generic workflows across multiple sectors.

Characteristics:

- Reusable software components
- Open-source, commercial off-the-shelf (COTS), or freely available with open access to data
- Facilitates one or more generic workflows
- Applicable to multiple use cases across multiple sectors
- Interoperable with other ICT Building Blocks
- Designed for scalability and extensibility
- Standards-based



Life Events: Building Blocks Approach



Births

Owning & Driving a
Vehicle

Housing

Employment /
Unemployment

Deaths

Digital Wallet & Information Mediator

Payment Service and Messaging

Data Collection and Case Management System

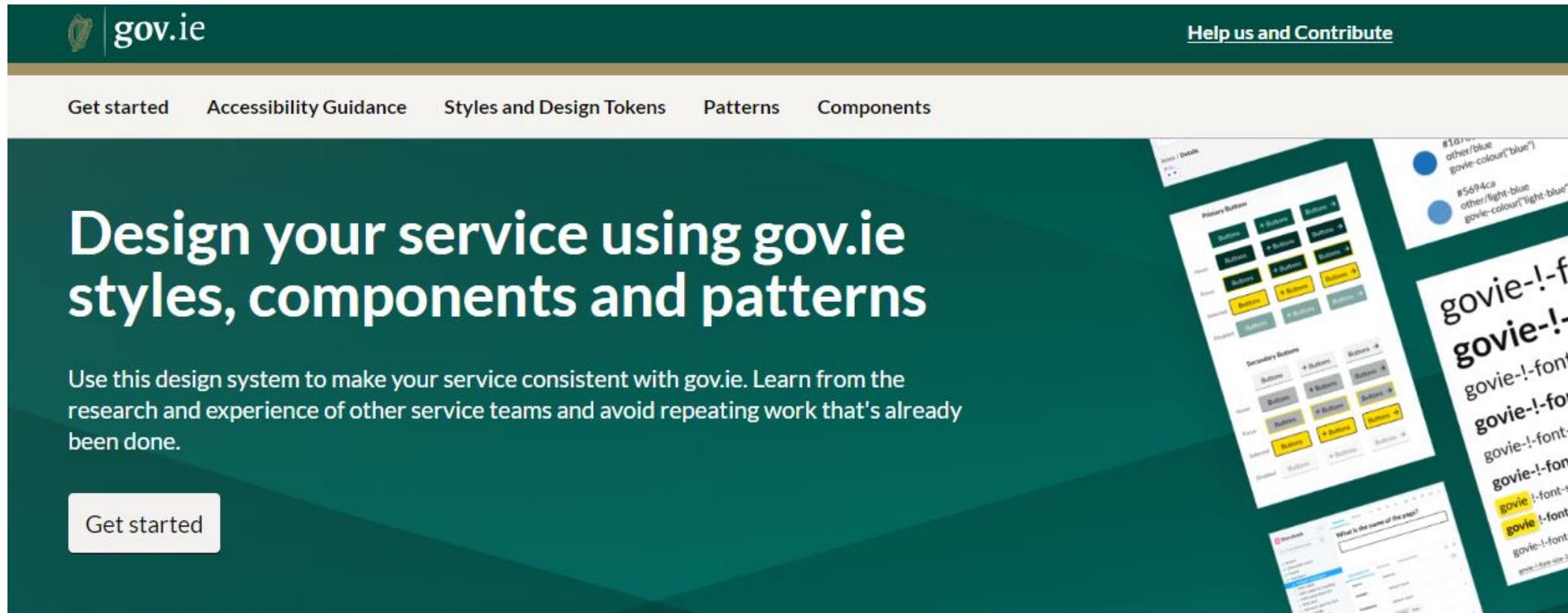
AI and Analytic Tools

UI Design System and Content Management System

Professional Services (Data Protection / Legislation / Communications etc.)



Design: Design System



The screenshot shows the homepage of the gov.ie Design System. At the top left is the gov.ie logo. At the top right is a "Help us and Contribute" button. Below the header is a navigation bar with links: Get started, Accessibility Guidance, Styles and Design Tokens, Patterns, and Components. The main content area features a large white banner with the text "Design your service using gov.ie styles, components and patterns". Below this, a paragraph explains the purpose of the design system. A "Get started" button is located at the bottom left of the banner. To the right of the banner, there are three overlapping components: a "Primary Buttons" grid, a "Secondary Buttons" grid, and a "GovForm" form template. A sidebar on the right lists color tokens: "#1071a4" for "other/blue" and "#5694c8" for "other/light-blue", both associated with "govie-colour('blue')". On the far right, a vertical stack of font names is shown: "govie-!-f", "govie-!-", "govie-!-font", "govie-!-font-", "govie-!-font-", "govie-!-font-", "govie-!-font-", "govie-!-font-", and "govie-!-font-size-24".

gov.ie

Help us and Contribute

Get started Accessibility Guidance Styles and Design Tokens Patterns Components

Design your service using gov.ie styles, components and patterns

Use this design system to make your service consistent with gov.ie. Learn from the research and experience of other service teams and avoid repeating work that's already been done.

Get started

Primary Buttons

Secondary Buttons

GovForm

#1071a4
other/blue
govie-colour("blue")

#5694c8
other/light-blue
govie-colour("light-blue")

govie-!-f
govie-!-
govie-!-font
govie-!-font-
govie-!-font-
govie-!-font-
govie-!-font-
govie-!-font-
govie-!-font-size-24

What's new

Life Events & Digital Wallet Development



≡ | gov.ie My Life Events

Search Life Events 5 MM

Maria Murphy
PPSN: TUV1599432

Driving

- Events
- About me
- Birth
- Health
- Driving
- Un/Employment
- Starting a business
- Housing
- Death

[Renew your driving licence](#)
Expires on 19th March - Apply now

[Renew a licence if you're 70 or over](#)
A line of text to support this statement

[Replace a lost or stolen licence](#)
A line of text to support this statement

[Driving licence categories](#)
A line of text to support this statement

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Rialtas na hÉireann
Government of Ireland

9:41

gov.ie Account

Welcome, Maria Murphy

PPSN: 1234567T | DOB: 25-10-1980

Your credentials

myID

Drivers licence
Expiry date: 19/3/2024 [Renew](#)

Birth certificate

European health insurance card
Expiry date: 12/12/2024

gov.ie

News Departments Services Languages ▾

Climate Action Plan 2024

Housing for All

Migration and Ireland

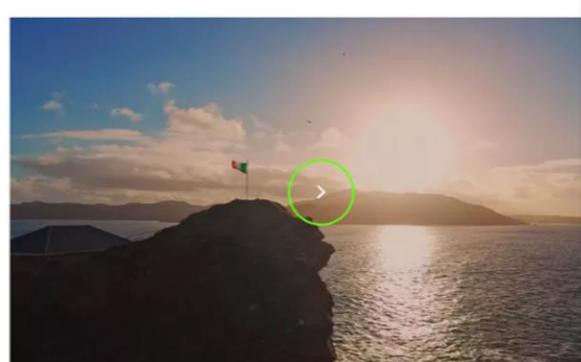
Enter search term

Your credentials

- Get a Personal Public Se...
- How to get a Public Ser...
- Birth, death, marriage ar...

Working support

- Additional Needs Payme...



This is Ireland

Make 2024 the year you discover Ireland's open community – where you can live, learn, create and innovate at the heart of Europe.

Welcome to Ireland.ie

The official international website of the Irish Government.

Build to Share



Citizens Information

Ireland in the world ▾ Embassies Passports and travel ▾ This is Ireland ▾ English ▾ Q

Categories ▾ What's New My Situation ▾ Find a Centre ▾ Volunteering Facebook

Most Popular

- Public holidays
- Additional Needs Payment
- State Pension (Contributory)
- Grants for a home energy upgrade
- Carer's Allowance

Search citizensinformation.ie...

Information on Your Rights & Entitlements from the Citizens Information Board

Health

COVID-19, Health system, Medical cards and GP visit cards, Health services, GP and hospital services, Dental, aural a...

Social Welfare

Irish social welfare system, Claiming a social welfare payment, Social insurance (PRSI), Social assistance payments, M...

Employment

Types of employment, Self-employment, Starting work and changing job, Training and looking for work, Starting work, ...

Money and Tax

Tax, Income tax, Income tax credits and reliefs, Tax credits and reliefs for people with disabilities, Capital taxes, Housin...

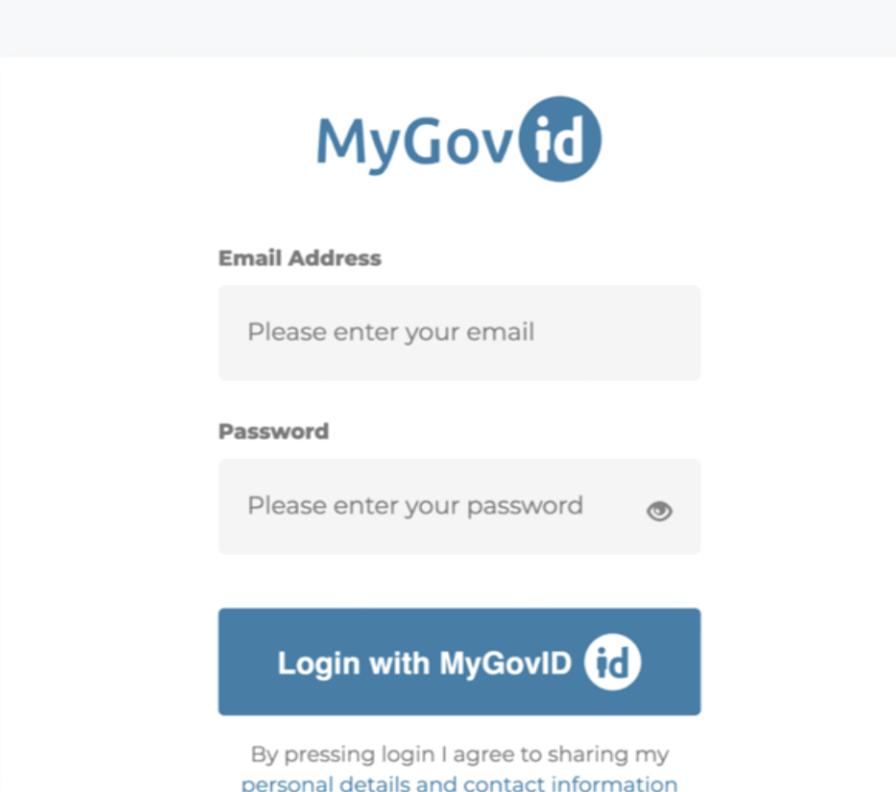
Moving Country

Irish citizenship, Asylum seekers and refugees, The asylum process in Ireland, Services for asylum seekers in Ireland, ...

Returning to Ireland

Planning your journey home, Returning to Ireland in a crisis, Residency and citizenship, Finding somewhere to live, ...

MyGovID



The image shows the MyGovID login interface. At the top center is the "MyGov id" logo. Below it are two input fields: "Email Address" and "Password". Both fields have placeholder text "Please enter your email" and "Please enter your password" respectively. To the right of the password field is an "eye" icon for password visibility. A large blue button at the bottom left contains the text "Login with MyGovID id". Below this button is a small explanatory text: "By pressing login I agree to sharing my [personal details and contact information](#) with this government body." At the bottom center is a link "Create Account".

MyGov id

Email Address

Please enter your email

Password

Please enter your password

Login with MyGovID id

By pressing login I agree to sharing my [personal details and contact information](#) with this government body.

Create Account

FormsIE : Data Collection



Apply for the Vacant Property...
SAVED AT 2:34 PM, 28 APR 2023

CREATE SETTINGS RESULTS
SAVED AT 2:34 PM, 28 APR 2023 Share

FIELDS

BASIC

- Page
- Heading
- Paragraph
- Image
- Page break

Fields

- Short answer
- Long answer

Logic
Please test your form thoroughly to ensure the logic works as expected.

ALLOWED FIELDS

Radio Number Decimal Dropdown

IF 3. Are you a registered pup breeder

IS equal to yes

+ Add condition

THEN Show field(s)

SHOW 4. Breeder ID

Cancel Save changes

IF 3. Are you a registered pup breeder

IS EQUAL TO no

THEN SHOW 5. Breeder Email

An Roinn Caiteachais Phoiblí Sheachadadh PFN agus Athchóirithe | Department of Public Expenditure NDP Delivery and Reform

Payments: Collect & Manage



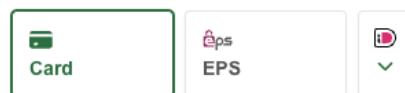
Ríaltas na hÉireann
Government of Ireland

Gaelige

Logout →

Payments

beta This is a new service - your [feedback](#) will help us to improve it.



Secure, 1-click checkout with
[Link](#)

Card number

1234 1234 1234 1234

Expiry date

MM / YY Security code
CVC

Country

Ireland

Optional

Save your info for secure 1-click
checkout with Link

Email

085 012 3456

gov.ie PROTOTYPE

[Payments](#) [Payment requests](#) [Providers](#)

Add Stripe payment provider

Name
Give a name to this payment provider to help you recognize it

Live Publishable Key
Lorem ipsum dolor sit amet consectetur. Id aenean magna habitasse ut erat. Pharetra nulla tincidunt.

Live Secret Key
Lorem ipsum dolor sit amet consectetur. Id aenean magna habitasse ut erat. Pharetra nulla tincidunt.

Confirm

Messaging: Notifications – eMail/ SMS



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OGCIO - Messaging

Hi, John Doe (Logout) Gaeilge

Menu ≡

beta This is a new service - your [feedback](#) will help us to improve it.

John Doe

Message Event Log

Send a message

Message templates

Providers

Event log

Recipient - Peter Parker

Here is a link to your TV License document

Dear Peter

Please see attached link to your new TV License.

Regards

Department of the Environment, Climate and Communications - TV License Unit

Status	Date	Time	Action
Opened	2025-01-15	16:34:44	
Delivered	2025-01-15	16:08:29	
Failed	2025-01-15	16:08:29	
Delivering	2025-01-15	16:08:29	
Scheduled	2025-01-15	16:08:27	
Created	2025-01-15	16:08:27	

< Back

eCase: Case Management



eCase

DASHBOARD HELP

[← Back](#)

Birth Certificate

Birth Certificate MVP project

[Create Case ▾](#)

Open cases 8 All cases Completed cases My cases

Search by Title or Reference ID [Export to spreadsheet](#)

RefId	Child's First Name	Child's Last Name	Child's Gender	Child's Date of Birth	Owner	Status
BC 0026-22	Anna	Murphy	Female	04 May 2022	HSE	Open
BC 0024-22	Paula	O'Hanlon	Female	01 Jun 2022	HSE	Open
BC 0022-22	Mary	Dunne	Female	07 Jun 2022	Conall O'Kane	Assigned
BC 0019-22	Mary	Murphy	Female	21 Jun 2022	HSE	Open
BC 0016-22	Eamonn	Sullivan	Male	01 Jan 2018	HSE	Open
BC 0015-22	Eddie	Keane	Male	01 Aug 2019	Conall O'Kane	Certificate generated

Information Mediator & APIs



Karavan v.0.01

Designer **Design** YAML

cameleer

Copy Save

Multicast

Routes the same message to multiple paths either sequentially or in parallel.

Executor Service Ref

On Prepare Ref

Parallel Aggregate

Parallel Processing

Share Unit Of Work

Stop On Aggregate Exception

Stop On Exception

Strategy Method Allow Null

Strategy Method Name

Strategy Ref

Streaming

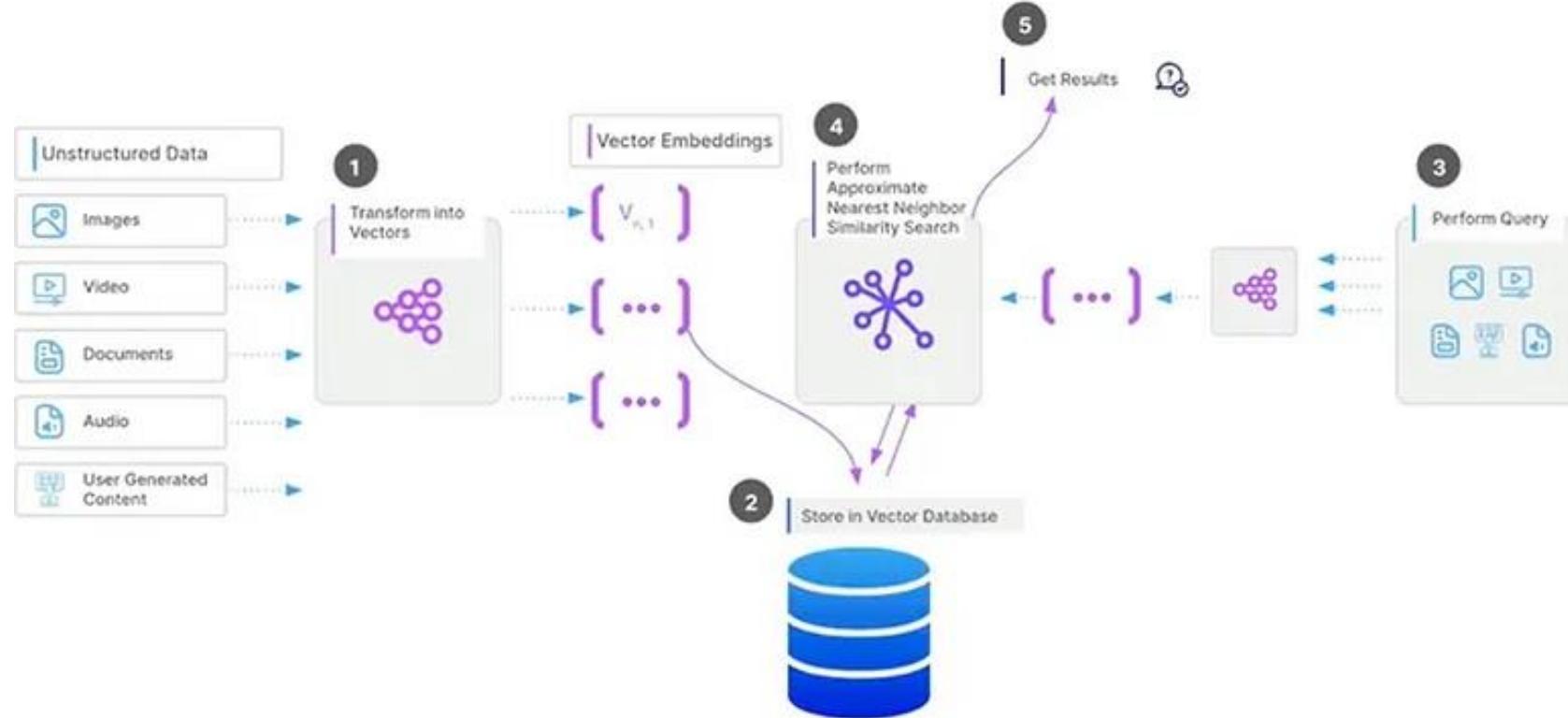
Timeout

```
apiVersion: camel.apache.org/v1alpha1
kind: KameletBinding
metadata:
  name: events-to-s3
spec:
  source:
    ref:
      apiVersion: messaging.knative.dev/v1
      kind: Channel
      name: messages
      # Or a Strimzi "KafkaTopic", if you prefer
  sink:
    ref:
      kind: Kamelet
      apiVersion: camel.apache.org/v1alpha1
      name: aws-s3-streaming-upload-sink
    properties:
      bucketNameOrArn: "my-bucket"
      accessKey: "<your-key>"
      # ...
```

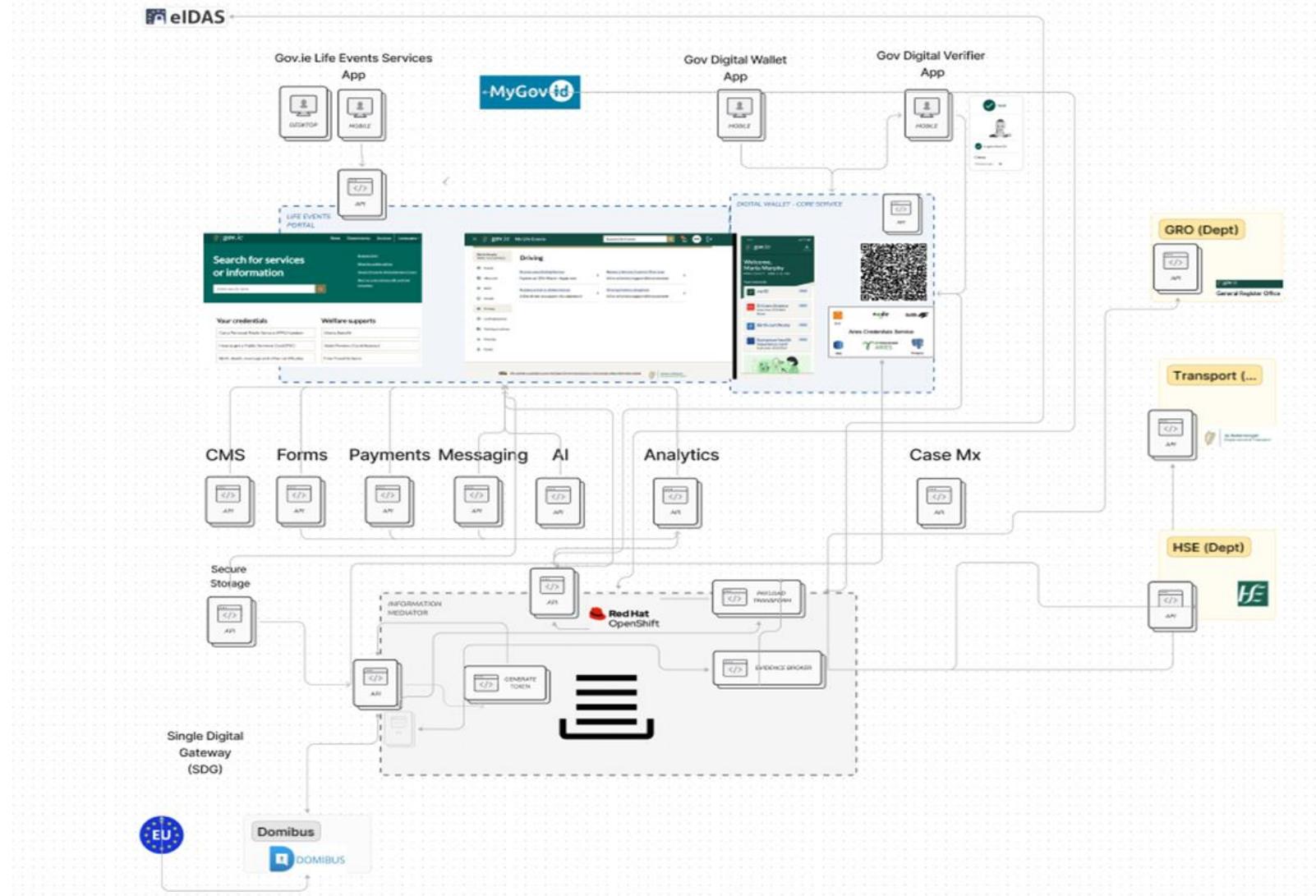
Analytics & Business Intelligence



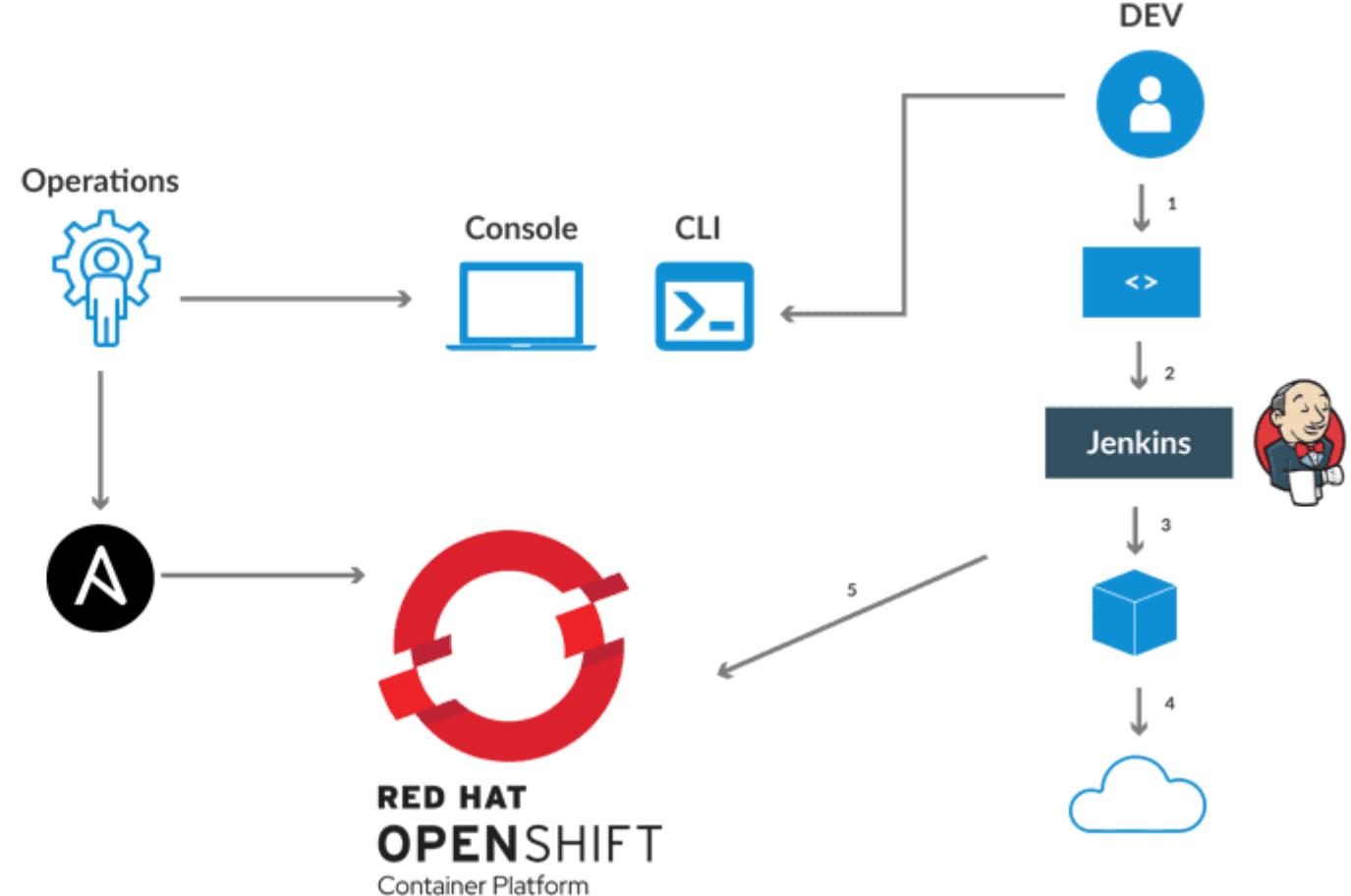
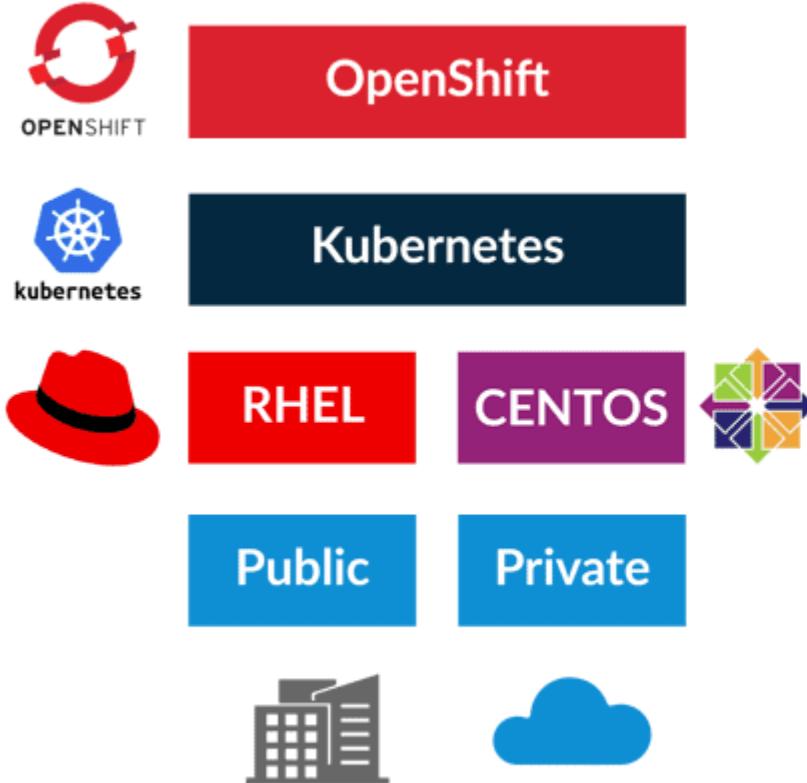
AI Projects & Open Framework



Applications: Federation: Building Blocks



Architecture: Vendor Neutral: InfraStructure



Digital Wallet: Credentials & Verification



Valid

RSA

Driving Licence



Details

First Name(s): Mary
Last Name(s): Murphy
Date of birth: 12 December 1994
Place of birth: Ireland

Driving Licence details

4a: 10-05-12
4b: 09-05-22
4c: RSA
4d: 234567
5: MURPH0523789H65SD 17
8: 55 GERRARD STREET, CORK
9: A, B, BE, C1, C1E, D1, D1E, f, k, k, l, n, p

Valid



Details

First Name(s): Mary
Last Name(s): Murphy
Date of birth: 12 December 1994
Age: 23
Place of birth: Ireland
Address: 55 GERRARD STREET, CORK

Valid



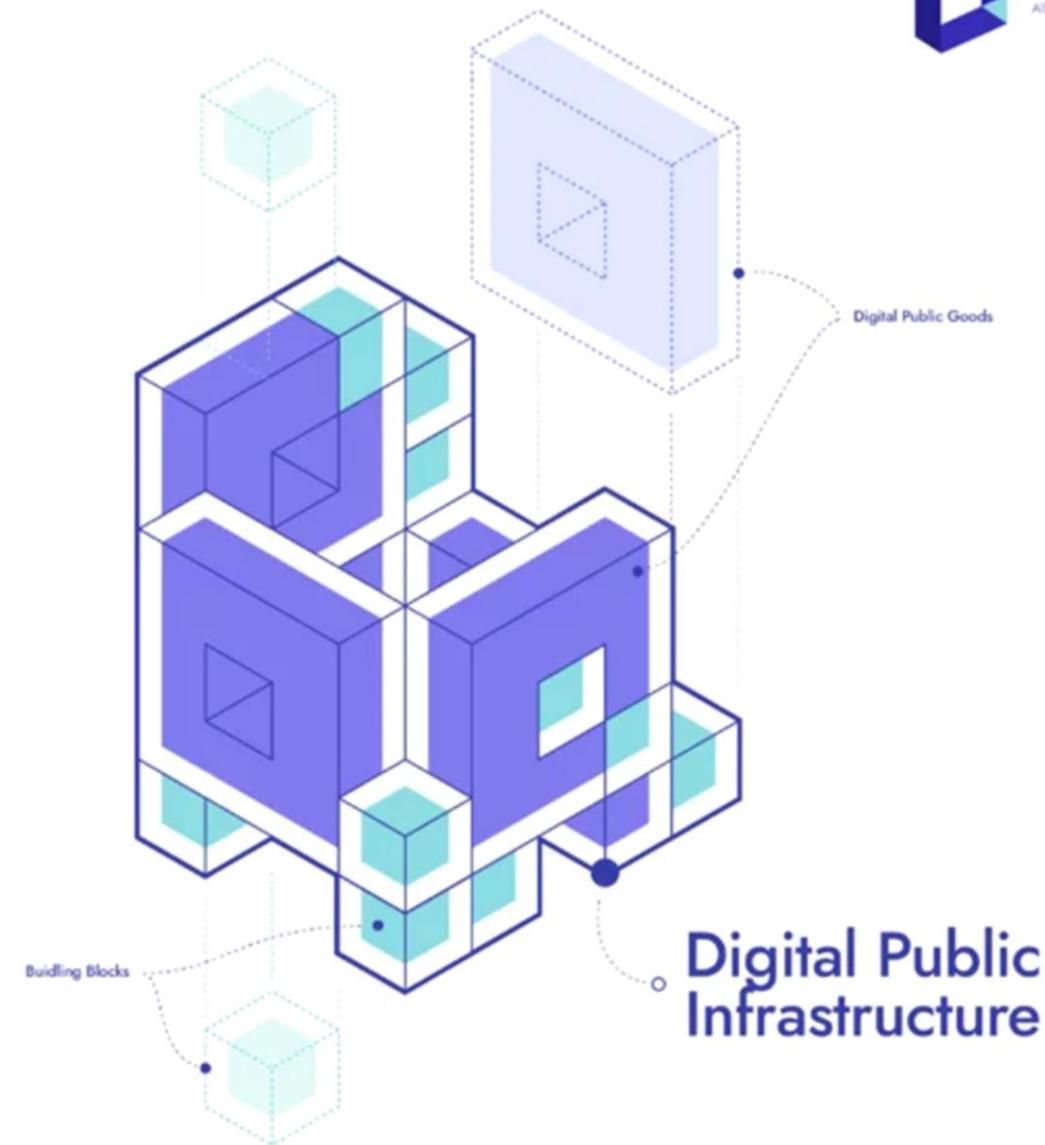
Criteria:

Is aged at least 18

Minimum age: 18

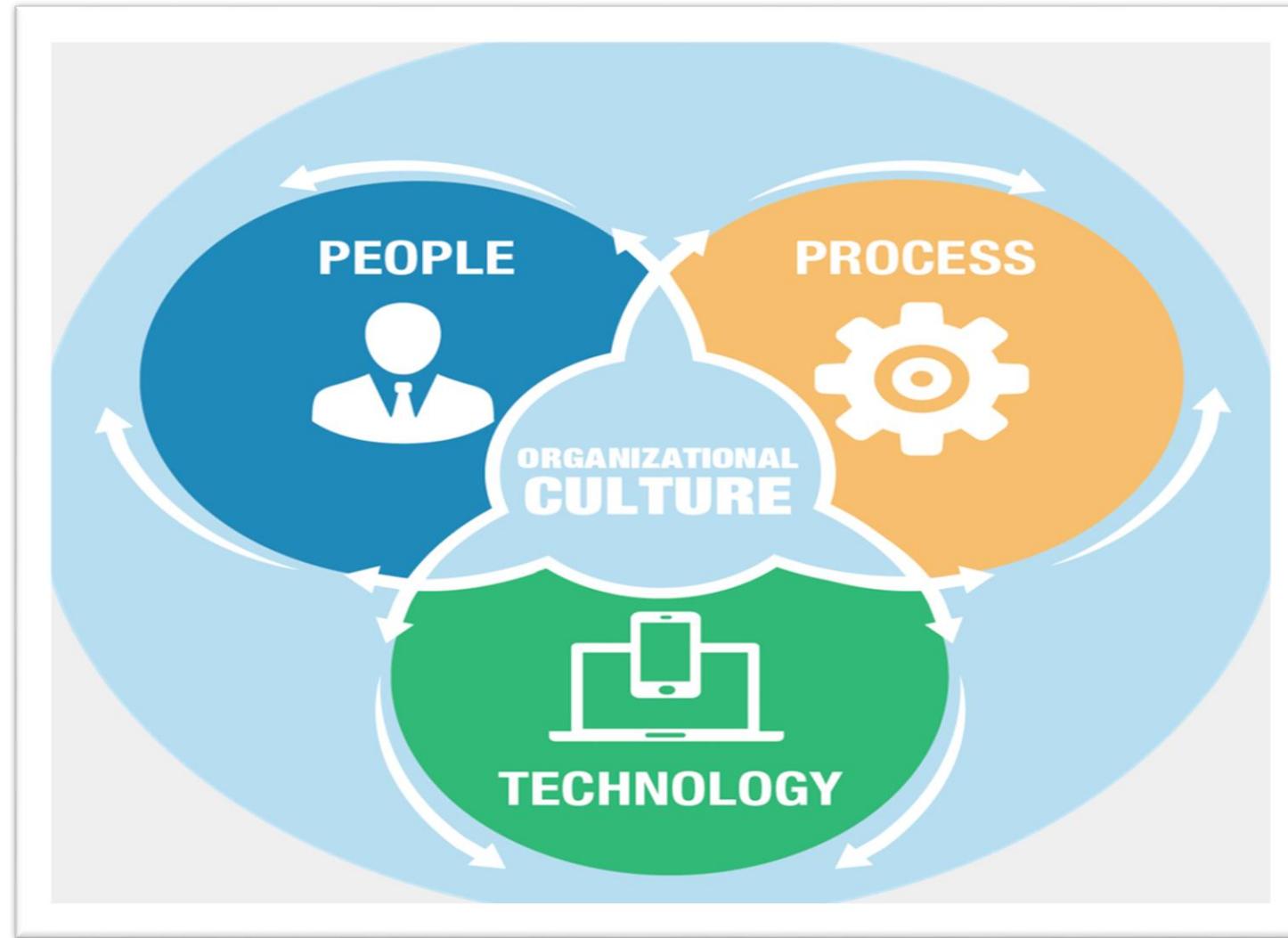


Digital
Public
Goods
Alliance



**Digital Public
Infrastructure**

Challenges



Opportunity





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Government of Ireland



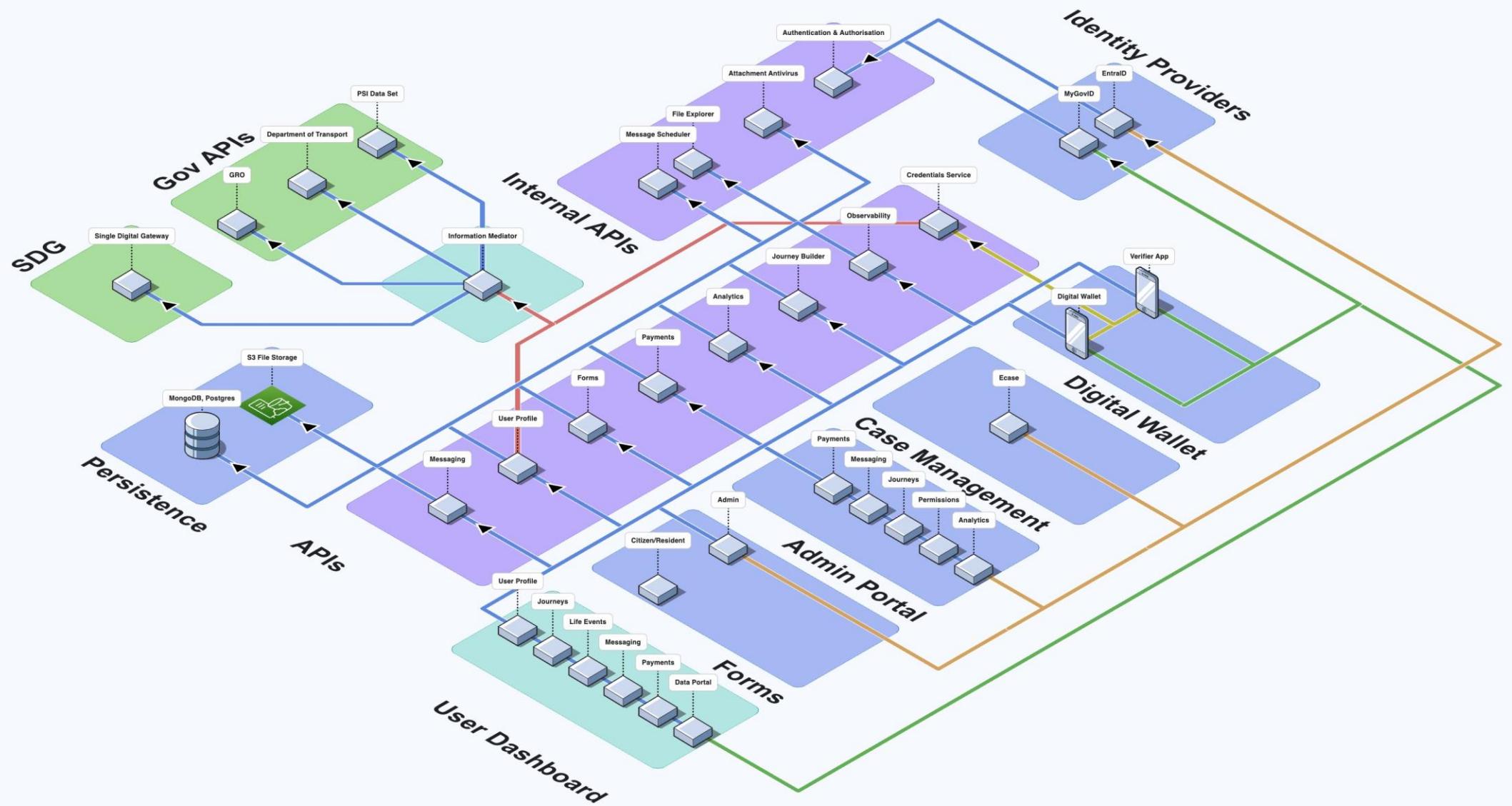




Ríaltas na hÉireann
Government of Ireland

Thank you

Tony Shannon
Head of Digital Services
Office of Government Chief Information Officer
Government of Ireland



Open Source Maturity Levels

FEATURED POST

20 JANUARY 2023

Hardware Security Principles

25 NOVEMBER 2017

Capabilities for Open Source Innovation:
Background

22 JULY 2015

The Future of Open Source

7 NOVEMBER 2013

Relativity, skepticism, and virtual worlds

Level 1: The lowest degree of engagement is often called Inner Source. A company at this level has taken some ideas from open source, but isn't consuming external code or sharing code externally, they are just collaborating internally a little more like an open source project.

Level 2: The next step up is to use open source, but purely as a consumer, bringing in external code.

Level 3: Companies at this level deliver open source to customers, either straight up, combined with other open source software, or combined with proprietary software.

Level 4: Companies at this level lead an open source project that they created. They release their code as open source, but they don't really have an active external community.

Level 5: Companies at this level participate in external projects by contributing code, sponsoring, or supporting the project in other ways, but the relationship is somewhat one-directional or distant. Their participation isn't highly active, but they still benefit from contributing patches and other support, and getting back the source code.

Level 6: The highest degree of effective open source participation is companies who participate as co-leaders. These companies don't just throw patches over the wall at the open source project, but take the time to actively share their needs with the open source project, to actively advocate for the directions that they think the project needs to go, and contribute developer time to the project. That doesn't mean they control the project, in fact, there's a great deal of value in having many perspectives contributing ideas and together negotiating the direction of the project, for the benefit of everyone involved. At this level, you find companies participating as equals with individual open source developers and respecting them for their technical expertise and role in the project.

What are Building Blocks?

Building blocks are enterprise-ready, reusable software components that provide key functionality facilitating generic workflows across multiple sectors.

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