



Horizon Cloud Summit 2020

25 & 26 November 2020

h-cloud.eu

[#HCloudSummit](https://twitter.com/HCloudSummit)

Horizon Cloud Summit 2020

Thursday

26 NOV

14:10

PARALLEL SESSION

Cloud computing – the future of public sector? Some interesting cases



Barry Lowry
IE Government



Prof Reinhard Posch
Austrian Government/TU Graz



Martin Dias d'Ullois
LOGIUS



Paul Mundt
Adaptant



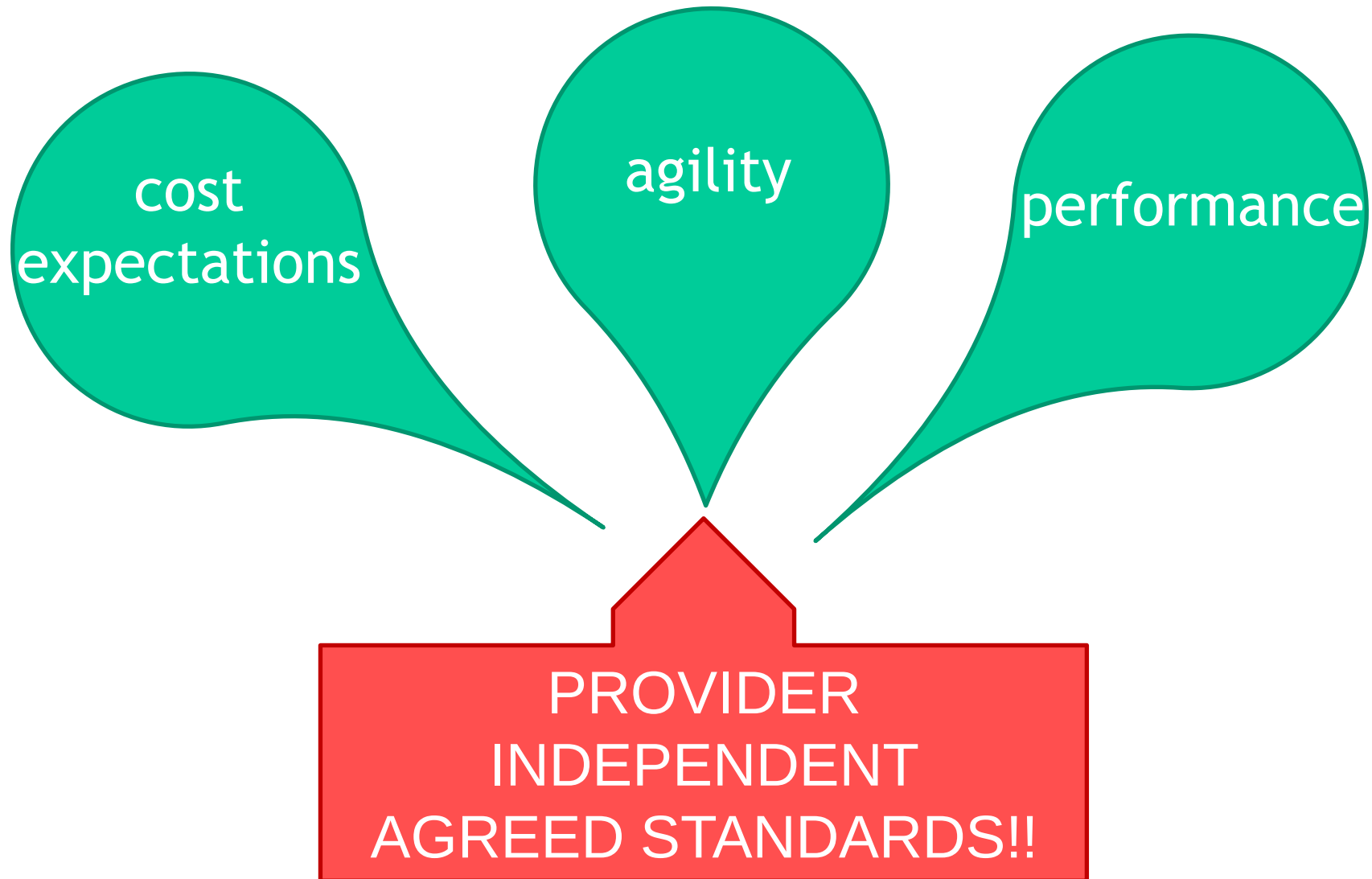
MODERATOR
Massimiliano Claps
IDC

The Use of CLOUD in the Public Sector

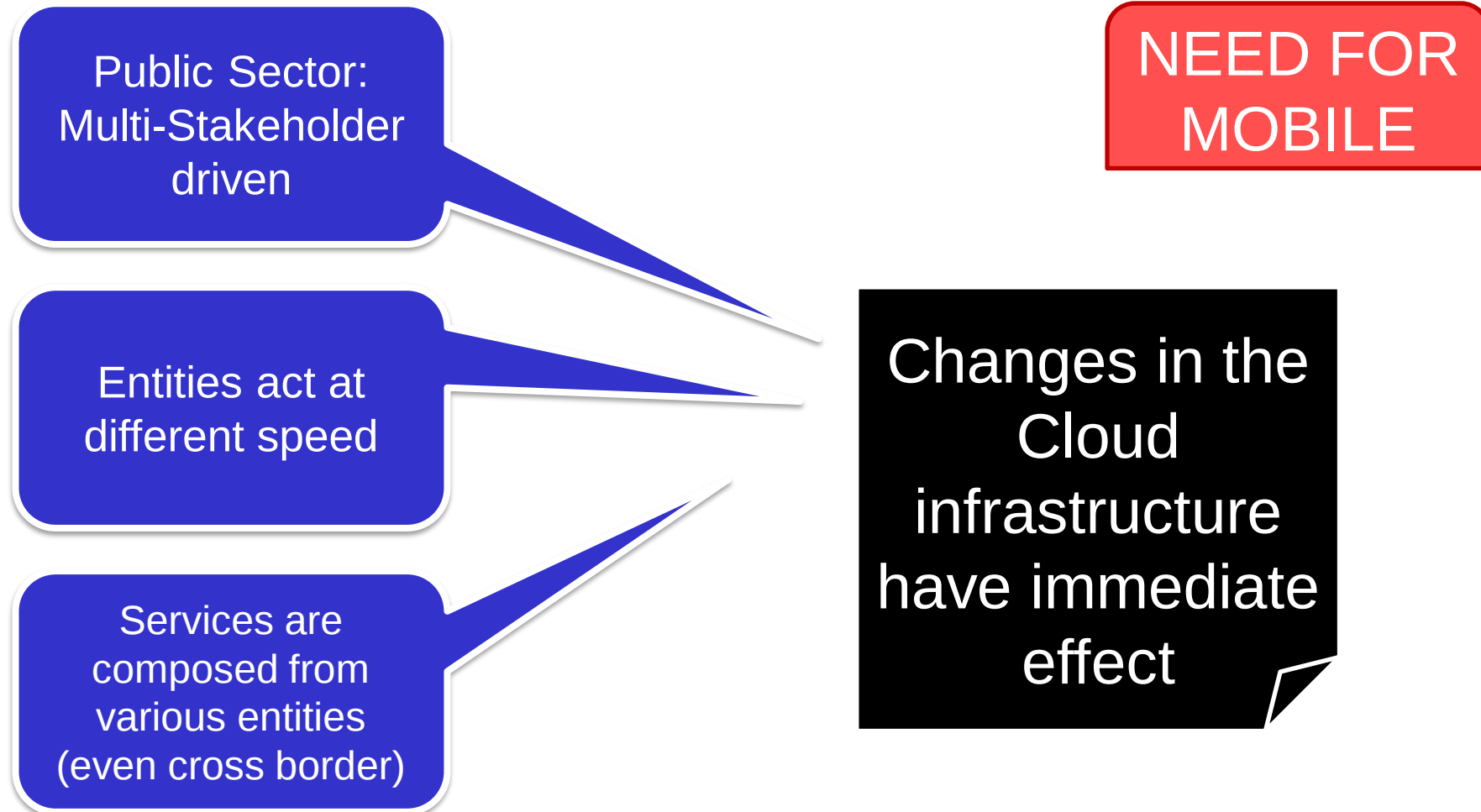
26. November 2020



Motivation and Need



Cloud and Continuity



Cloud and Digital Sovereignty

digital sovereignty comes at two flavors

RESILIENCE

it needs to be absolutely clear that no other public or private entity can change or interrupt the service

CONFIDENTIALITY

no third party must be involved in the generation or use of crypto keys

these aspects must be ensured both on the LEGAL and on the TECHNICAL level

eIDAS – SDG and ONCE ONLY

There are basic requirements to services - including cloud services - resulting from European obligations

SDG and
ONCE
ONLY

eIDAS

The minimum requirements

It needs to be provable and technically clear that a service is offered by a certain Member State

strength and technology of eID must conform to eIDAS – a underlying UID PWD level would violate this condition.

Services in the Cloud

There is a great difference between data and services in the Cloud. Services include any service including e.g. simple service like search.

When it comes to sovereignty, for relevant applications anything beyond pure and encrypted data seems to be unfeasible at this point in time.

Requirements for Providers

- For services - at least towards citizen or companies - eIDAS is a must
- For services - at least towards citizen or companies - proper and high-quality encryption is a condition for GDPR compliance
- For critical administration - like budget, justice, public health and many others - sovereignty matters and must be considered upfront
- Public services cannot assume private liability to be sufficient - for being fail safe most services will require a totally independent second instance
- For services in the cloud it needs to be ensured that updates and changes by the provider will not force public administration to get into action
- The managing of new security challenges - MELTDOWN, SCEPTRE is a critical issue

Thank You



Zentrum für sichere Informationstechnologie - Austria
Secure Information Technology Center - Austria



Rialtas na hÉireann
Government of Ireland

How Cloud computing will empower Ireland's Digital Government Agenda

Barry Lowry
Government of Ireland CIO
November 2020

Digital Transformation Building Blocks



Rialtas na hÉireann
Government of Ireland

Our citizens should be able to access Government Services at a time and place convenient to them and using their device of choice.



Digital Services

All digital services should be consistent and easy to use. They should also reflect the diversity of our society.



DATA

Citizens should not have to tell us what we already know. But our use of their data should be appropriate and transparent.



Everyone running their own infrastructure is inefficient, ineffective, increases risk and obstructs data sharing.



Build to Share

Capability

Governance

We need to ensure that we maximise the value of our data, including historical.

Our ambitions are dependent on skills, competence and confidence amongst users, service providers, system builders and leaders.



Good governance is essential to generate trust and confidence among all stakeholders.



“Gartner finds that the top three objections to public cloud usage in government are security/privacy issues, lack of features and concerns about vendor lock-in”.

Gartner October 2017

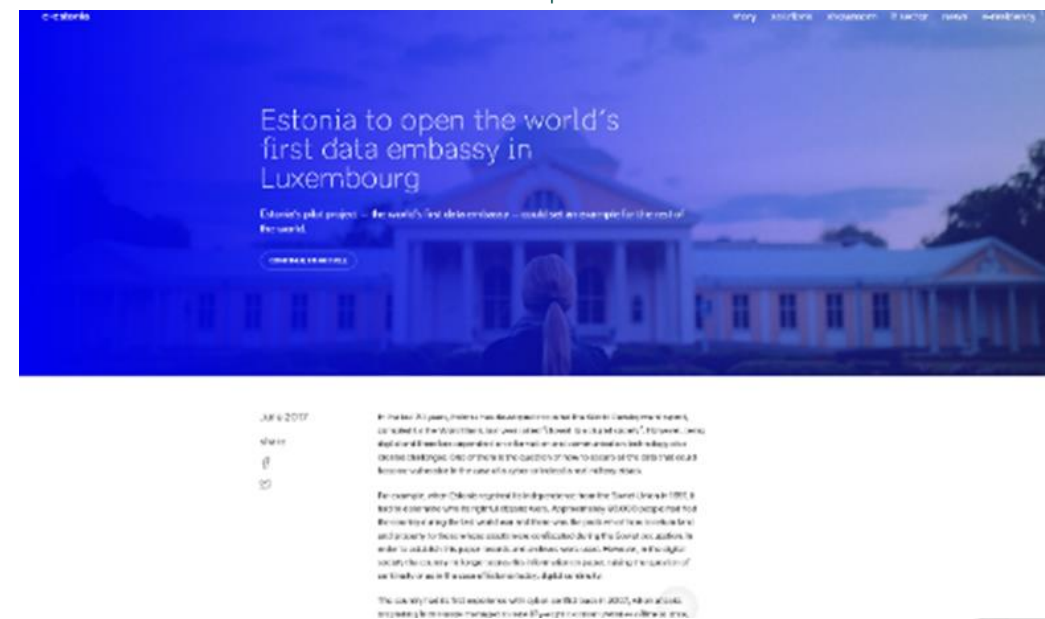


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Smarter With **Gartner**.



**An Roinn Caiteachais
Phoiblí agus Athchóirithe**
Department of Public
Expenditure and Reform



“The cloud technology provides a good opportunity, but the state also wants to maintain the full control and jurisdiction of their data and systems. For this reason the private cloud services are not exactly suitable for us”

Siim Sikkut June 2017





An Roinn Caiteachais
Phoiblí agus Athchóirithe
Department of Public
Expenditure and Reform



An Roinn Caiteachais
Phoiblí agus Athchóirithe
Department of Public
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“Organisations should no longer decide whether to move to cloud for new or existing systems. The decision to be made now is what, how and when to move to cloud”.

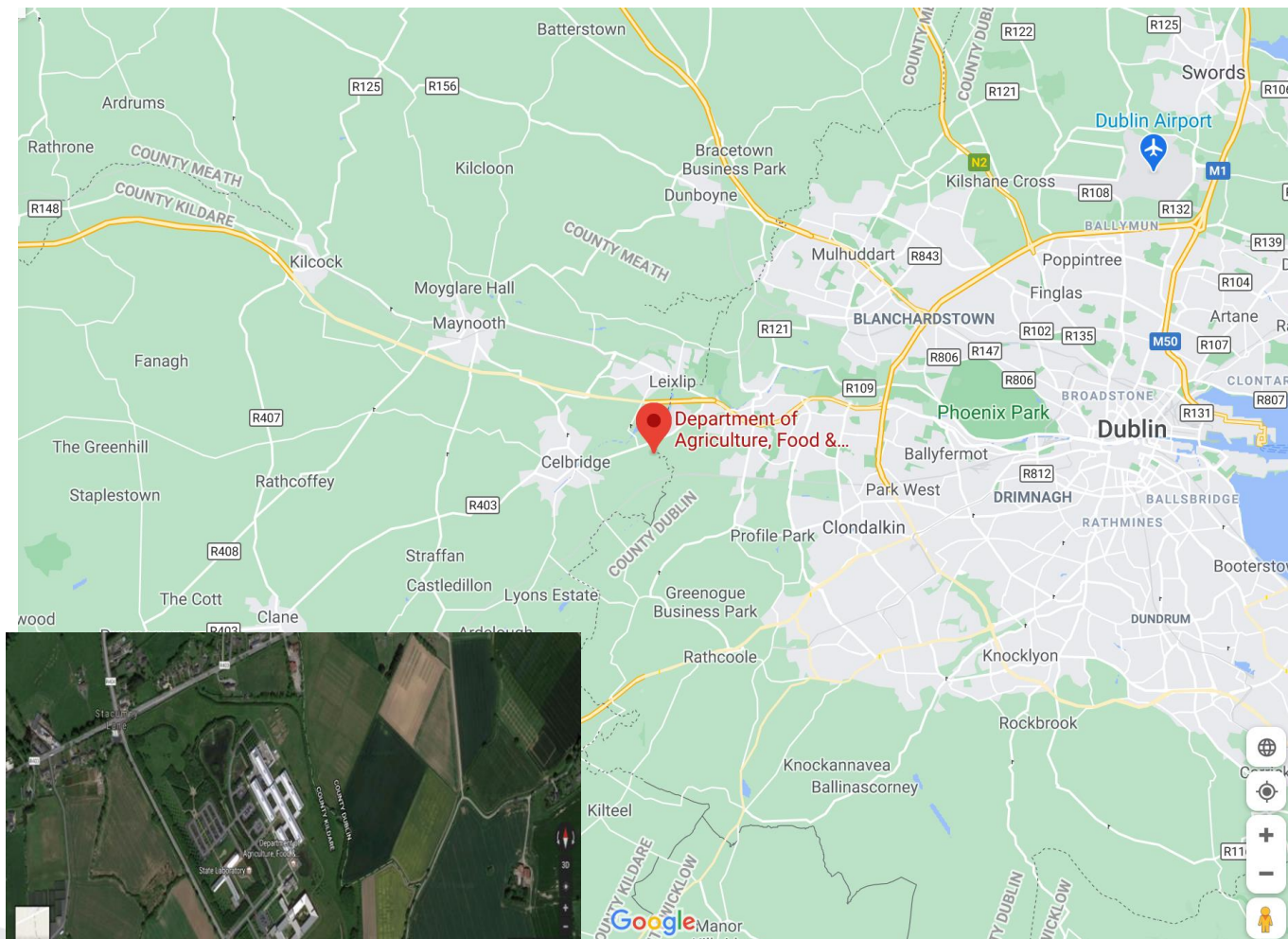
Cloud Computing Advice Note

October 2019

Prepared by the Office of the
Government Chief Information Officer



Moving Forward



- Jan-April 2020 – Gov.ie saw a 496% increase over whole of 2019
- Over 2 million page views on days of key announcements
- 70% traffic is mobile – especially for information services

COVID-19 (Coronavirus)

Ireland is at Level 5

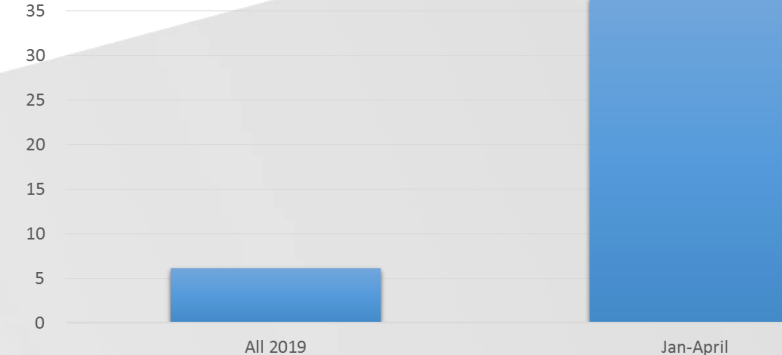
[See all of the measures that are in place at Level 5 here.](#)



Further information is available:

• [World Health Organization \(WHO\)](#)

Millions

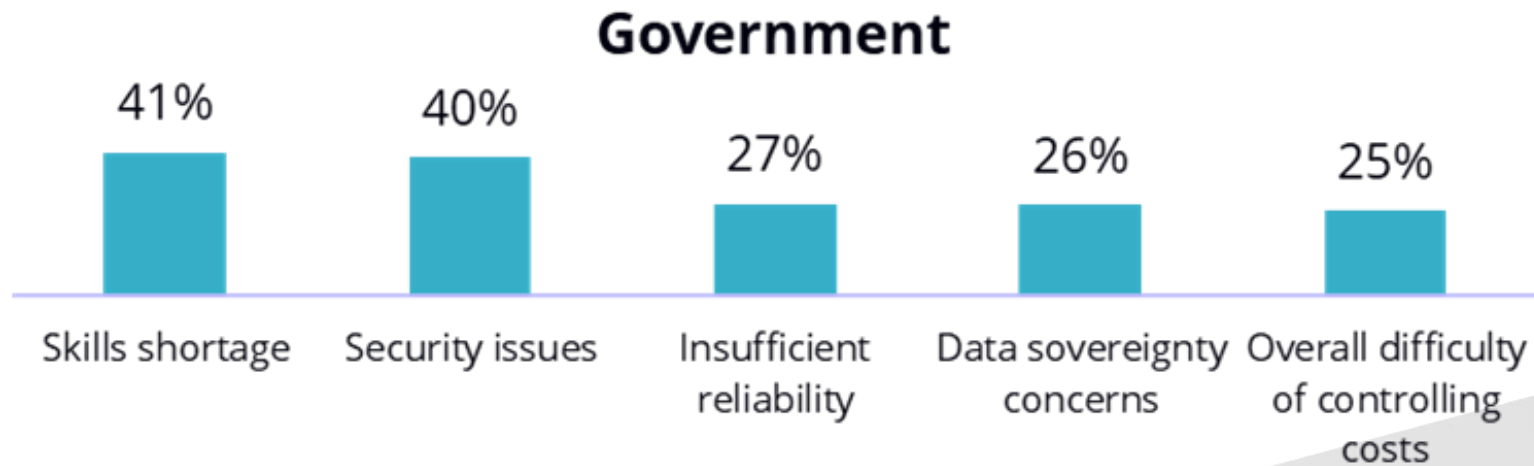


Still work to be done though!



Rialtas na hÉireann
Government of Ireland

Top 5 Challenges of Hybrid/Public Cloud Deployments



Source: How Successful Are European Governments in Deploying Hybrid and Public Cloud? – IDC, June 2020”



Rialtas na hÉireann
Government of Ireland

Thanks!

Becoming more Agile using Cloud Technology

Cloud development Dutch
eGovernment

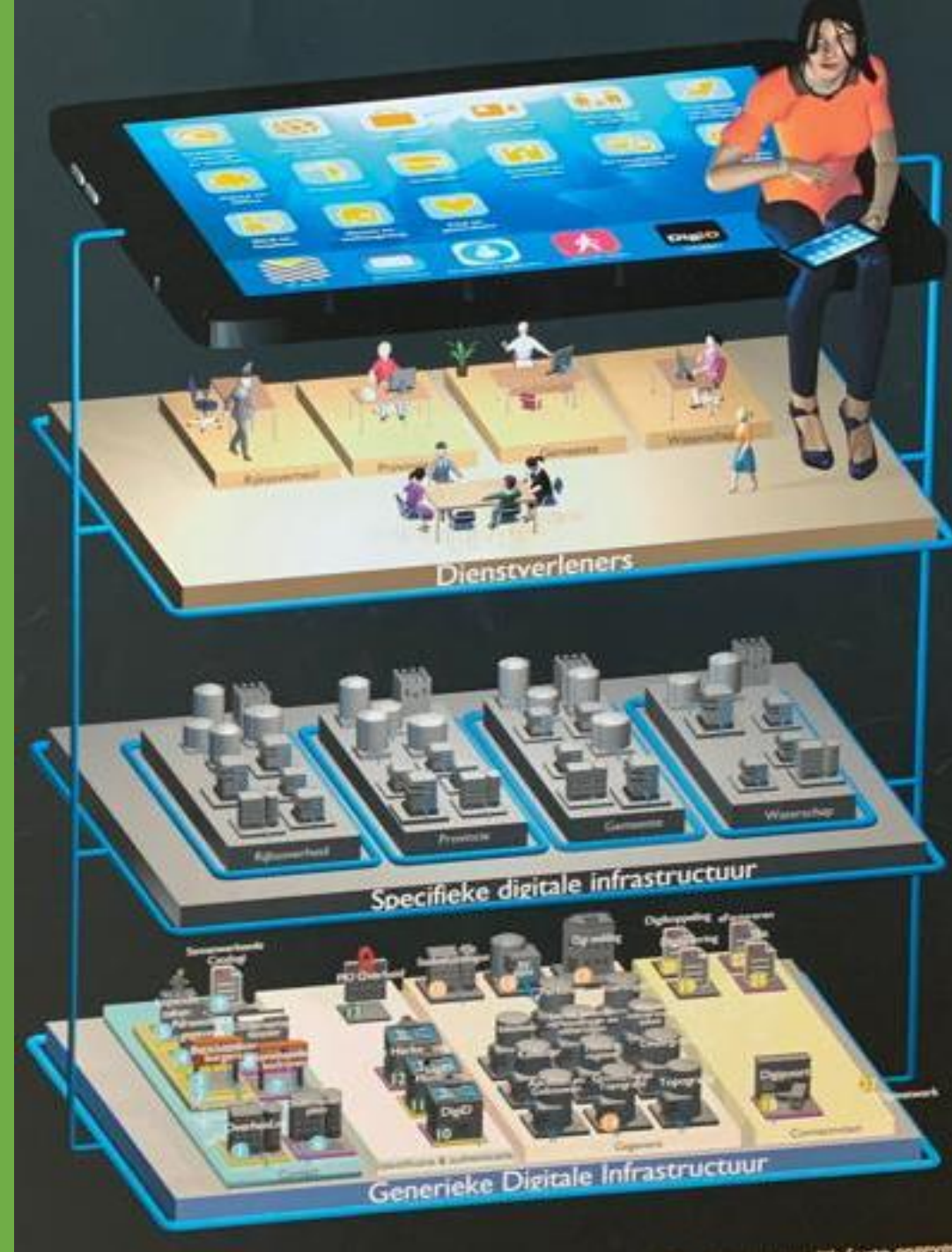
Horizon Cloud Summit 2020



Powered by
**Logius
Private Cloud**



Logius
*Ministerie van Binnenlandse Zaken en
Koninkrijksrelaties*





Agenda

- Introduction (myself & Logius)
- (Long term) Goal Dutch eDevelopment & Exploitation
- DevOps
- Cloud Services



Introduction

Logius

- Executional body of Dutch Ministry of Internal Affairs
- Exploitation of Dutch Digital ID, Message Portal, eDelivery, etc.
- Centre of Standards

Myself

- 6 yrs Government, before private domain
- Product Management Digital Mandates in the past.
- Since 1,5 yrs Product Owner Cloud Services: building a private cloud platform on Kubernetes, using CNCF components



Motives

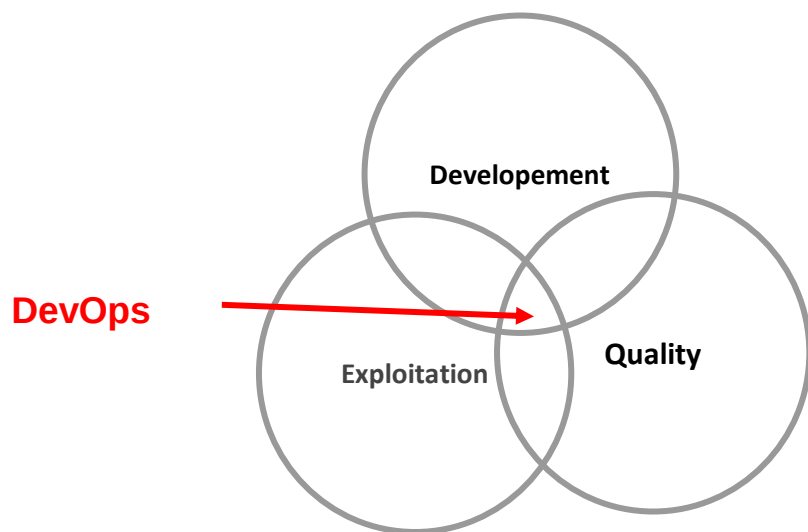
- Improvements and changes in digital services need to be implemented faster and more frequent
- Organisation: Logius adopted Scaled Agile Framework (SAFe)
- Technology: move from monolithic systems to microservices orientated architecture
- Thus Cloud – CI/CD Pipelines



DevOps

"a set of practices intended to reduce the time between committing a change to a system and the change being placed into normal production, while ensuring high quality"

Bass, Web, Zhu - DevOps: A software Architect's Perspective (2015)



- Improves **innovation** due to shorter leadtimes
- **Improves Quality** of software
- **Reduces changes on errors** by releasing updates
- **Better cooperation** between teams
- **Reduces** IT-costs



Why now?

**Continuous
Integration /
delivery**



**Version
Control**



Containers



**Infrastructure
as code**



**Automated
testing**





Cloud vision

- Cloud Native Computing Federation Landscap (CNCF)
- Stay agnostic – prevent vendor lock in
- Share working code (<https://gitlab.com/logius>)
- Stimulate co creation widely throughout Government
 - Organise events
 - Be open
 - Train teams which have to use the cloud services
- Realize Cloud is not a sliver bullet, it will ask attention to a lot of other activities.



Thank you for your attention

Martin.diasdullois@logius.nl

<https://gitlab.com/logius>



Sodalite

**SOFTWARE DEFINED APPLICATION
INFRASTRUCTURES MANAGEMENT
AND ENGINEERING**



**Shaping the New Strategy
for Cloud Computing
in Europe**



Online Edition



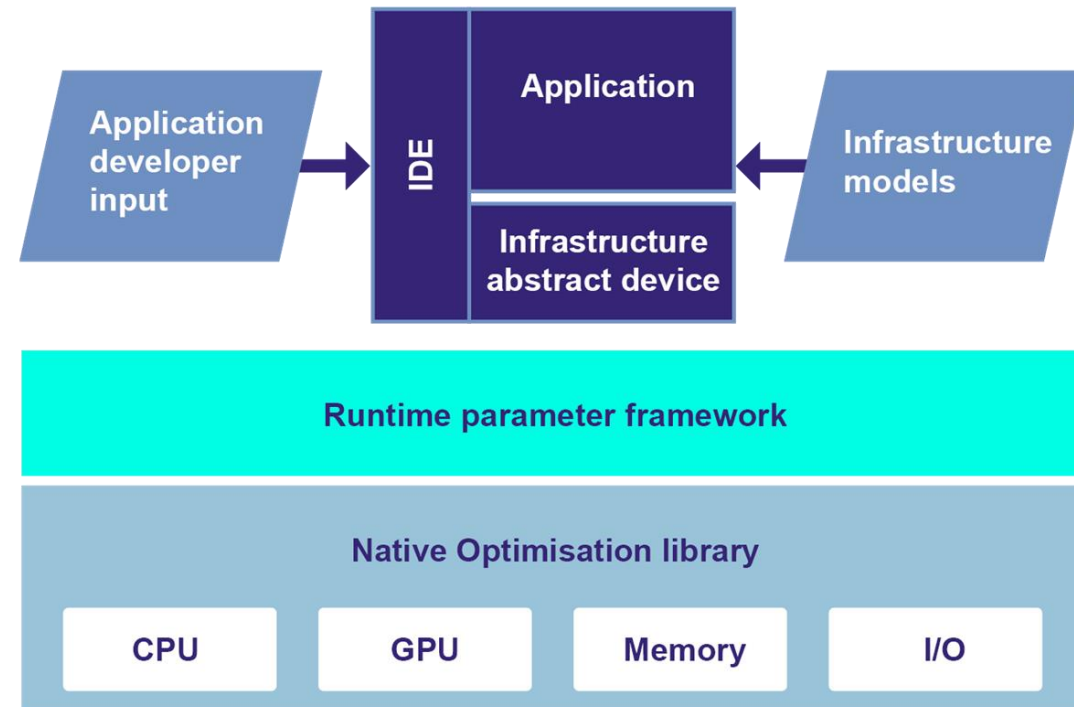
www.sodalite.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 825480



Solution Outline

SODALITE provides tools to enable simpler and faster development, deployment, operation and execution of applications across heterogeneous HPC, Cloud, Edge & SW defined computing environments



Use-Cases as Drivers for SODALITE Innovation



Use case: **Water Scarcity**

Problem: Need for a reconfigurable data processing pipeline (CPU/GPU/IO bound) leveraging heterogeneous accelerators, that can be optimised and deployed anywhere.

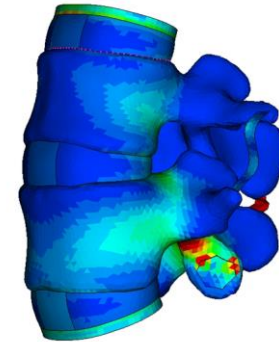
Solution: By increasing the number of images that can be processed per second, SODALITE-enabled optimisation and reconfiguration directly improves prediction accuracy, while retaining the required deployment flexibility.



Use case: **Vehicle IoT**

Problem: Changing compliance, privacy, and security needs in a dynamic environment, combined with limited and varied computational capacity at the Edge.

Solution: Adaptive application and infrastructure-level deployment reconfiguration, leveraging heterogeneous compute resources in a multi-cloud (Cloud-to-Edge) environment, driven by environmental changes at the Edge.

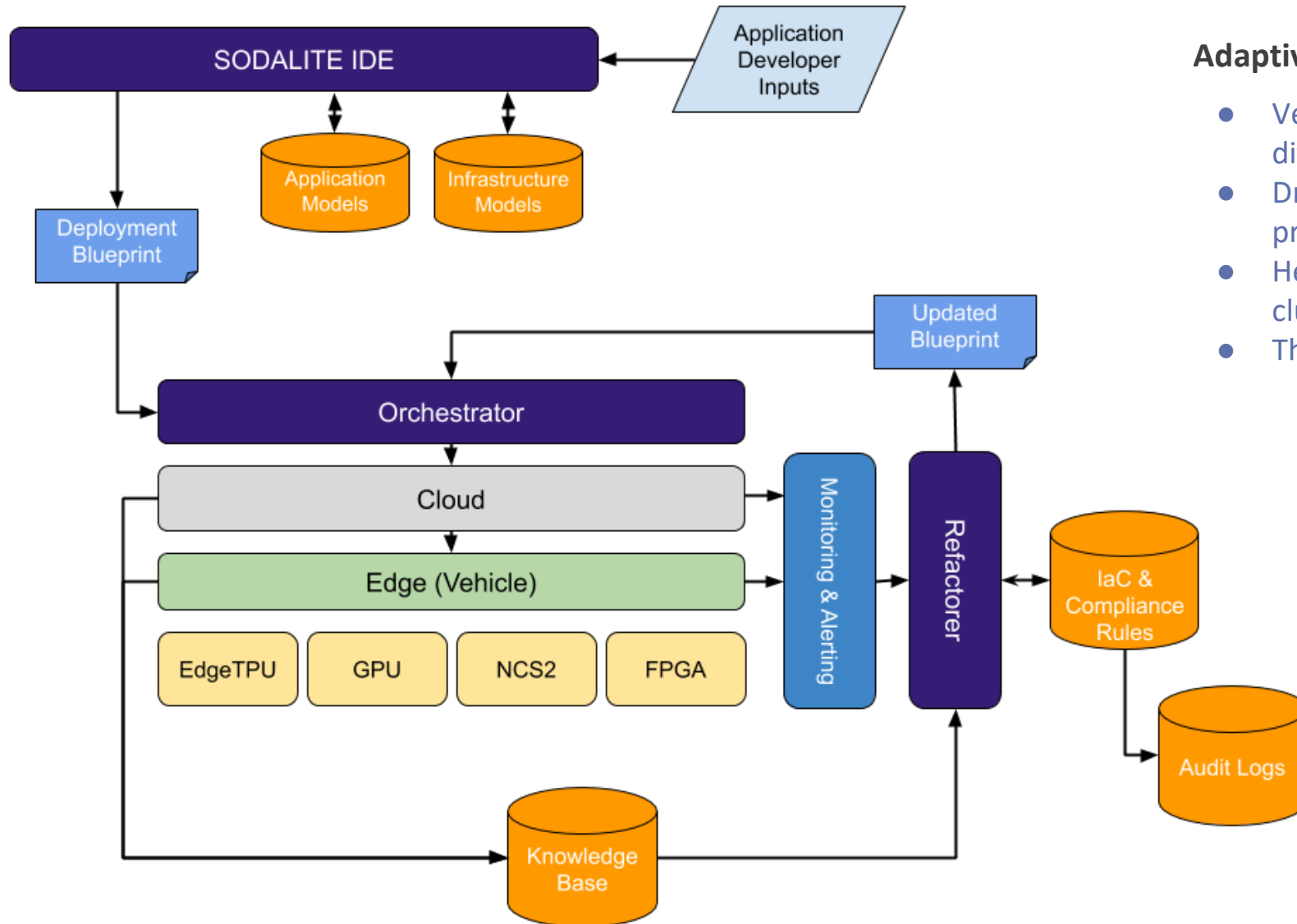


Use case: **In-silico Clinical Trials**

Problem: Production-ready, complex workflow, needs to be able to efficiently run on different types of hardware, while continuing to achieve strict performance requirements.

Solution: SODALITE provides static and runtime optimizations, simplified configuration and deployment over heterogeneous infrastructures. Monitoring and refactoring ensure performance targets are continually addressed.

Use Case: Vehicle IoT - Application & Infrastructure Reconfiguration



Adaptive Reconfiguration Examples:

- Vehicle changes country, application subject to different audit & compliance requirements
- Driver changes consent or application privacy preferences, or Driver changes
- Heterogeneous accelerator added/removed from cluster, high utilization rate
- Thermal tolerances of accelerator exceeded





Thank you for your attention!

TALK TO US

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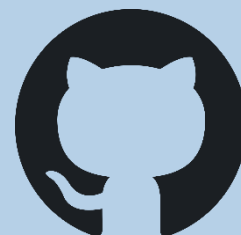
María Carbonell

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www.sodalite.eu



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Find us on GitHub!

SODALITE-EU



THANK YOU FOR YOUR ATTENTION

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