



Investing in your future

OPERATION PART FINANCED BY THE EUROPEAN UNION
European Regional Development Fund

CLASS **Conference 2014** CloudAssisted Services

Cloud computing developments in Slovenia&EU – past activities and future plans

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Competence center for Cloud Computing

Presentation focus

- A. 2011-2013 project [KC Class](#) funded by structural funds,
- B. Impact on national or local economy,
- C. What were the challenges (financial, criteria, ...)
- D. Where was it difficult during and what were the lessons learned
- E. Future plans

Zavod e-Oblak, established in august 2010

Head office - Dimiceva 13, Ljubljana, Chamber of Commerce of Slovenia

Members

<http://eurocloud.si/lang/sl/members-clani/>



Management team

				
President of the Board	Member of the Board	Member of the Board	Member of the Board	Founding member
Security	relation with other ICT slovenian stakeholders (government, industry)	research, EU projects	export	Chief Executive manager
Boštjan Mešič	Zupančič Dušan	Pipan Gregor	Stanovnik Tone	Baskovc Dalibor
1.09.10	1.09.10	1.09.10	1.09.10	1.09.10

EuroCloud Europe – Luxembourg

Head office EuroCloud Europe at Chamber of Commerce



Eurocloud Europe – Management Team

Chairman

EU Relations / Political Affairs

Bernd
- Germany



DG Connect / Justice / Enterprise / ETSI / ENISA / Award / Cloud Innovation World Cup

Treasurer

Internal Organization / Finance / CIO

Tobias
- AT



ISO
Cloud book, CloudKongress

Secretary / Headquarter Management / Luxembourg Relations

Amal
- Lux



Founding Program Participation Management

Paulo
- PT



EU Relations Research

Marketing Strategy and Congress Content

Phil
- GB



SIIA / US Relations / Political Affairs

Start Up Encouragement Management

Dalibor
- SI



Dalibor: China - EU Relations

EuroCloud goals

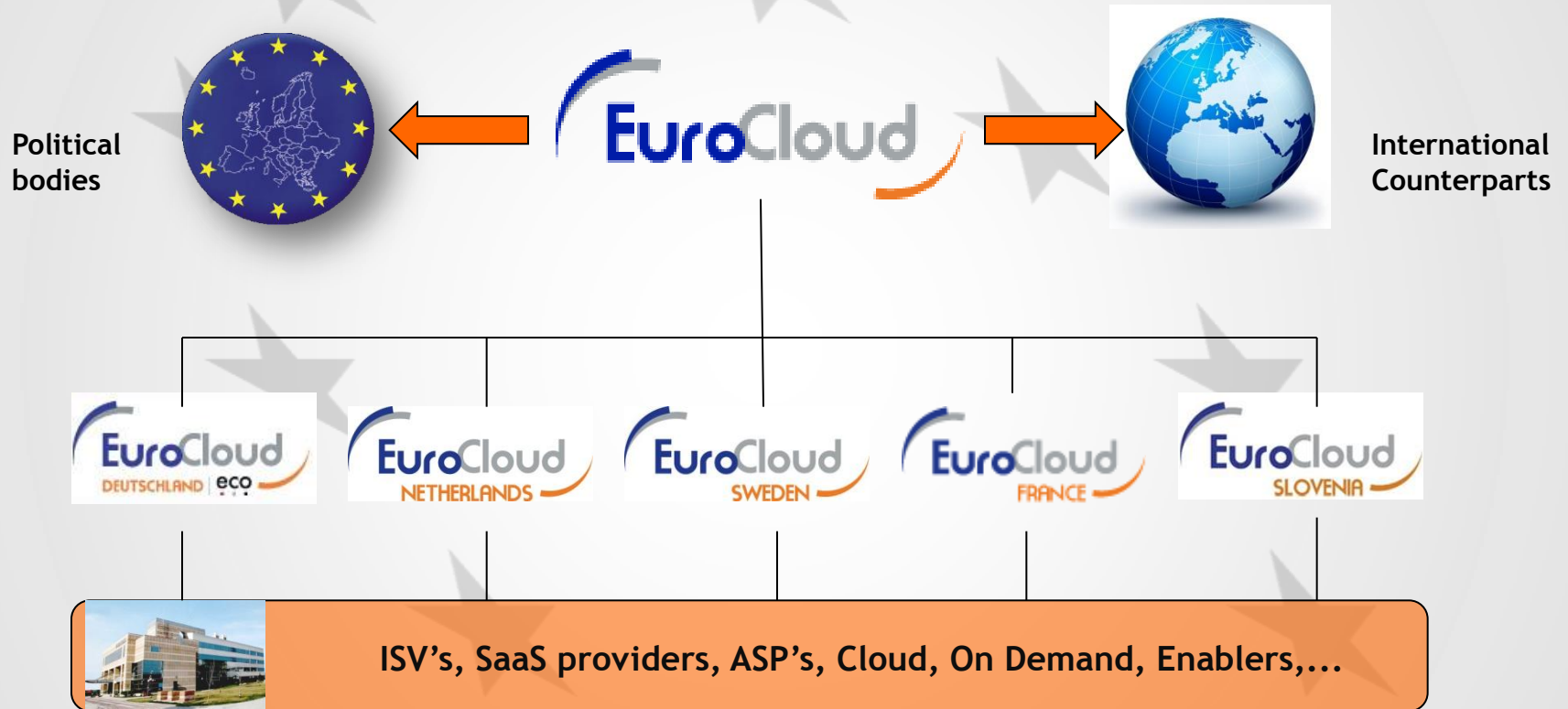
To create awareness of Cloud Computing throughout the society and take an active role in the design of cloud industry processes and standards

To build a pan-European contact and knowledge sharing network for companies that have interests in Cloud Computing

To build a strong relationship with politicians; European Commission, European Parliament and local Public Authorities

To position the interests of the cloud industry within existing information technology associations (CSA, SIAA, China cloud organizations)

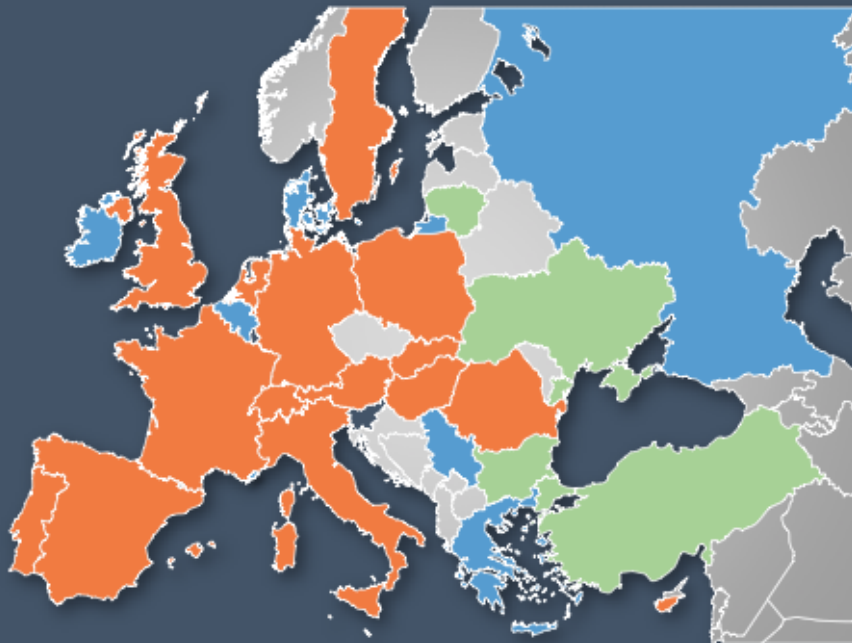
EuroCloud working structure



Unique EuroCloud framework for strong local and European actions

EuroCloud Europe

Coordinators, EC Countries, In Foundation



EC Countries - A

- Austria
- France
- Germany
- Hungary
- Italia
- Luxembourg
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- United Kingdom

EC Countries - B

- Belgium
- Denmark
- Greece
- Ireland
- Malta
- Monaco
- Russia
- Serbia

In Foundation

- Bulgaria
- Cyprus
- Lithuania
- Turkey
- Ukraine

Developed guidelines/programs/working groups in SI & EU, within which we operate

- EU Cloud strategy - septembra 2012
 - <http://ec.europa.eu/digital-agenda/en/european-cloud-computing-strategy>
- EU Cloud working groups supporting EU strategy implementation:
 - <https://ec.europa.eu/digital-agenda/en/cloud-computing-strategy-working-groups>
- EU overview on : standards, certifications schemes, code of conduct, SLA's:
 - http://www.cloudconference.eu/media/filer_public/2013/11/05/ken_ducatel.pdf
- European Cloud Partnership initiative:
 - <http://ec.europa.eu/digital-agenda/en/european-cloud-partnership>
- European Cloud Partnership program CloudForEurope (11 EU member states):
 - <http://cloudforeurope.eu> and http://www.cloudconference.eu/media/filer_public/2013/11/05/linda_strick.pdf
- SI general guidelines on cloud computing
 - <http://eurocloud.si/wp-content/uploads/EuroCloud-smernice- prevedeno-in-prilagojeno.pdf>
- SI guidelines on data protection
 - https://www.ip-rs.si/fileadmin/user_upload/Pdf/smernice/Smernice_rac_v_oblaku.pdf
- Slovene public authorities cloud computing programs “Quantum Leap” -
 - http://www.cloudconference.eu/media/filer_public/2013/11/05/jurij_bertok.pdf
- **NEW – Slovene SmartSpecialization**
 - http://s3platform.jrc.ec.europa.eu/documents/10157/443591/National%20RIS3%20Peer-review%20Template-Portoroz_SI%205%2014_SI_Final.pdf
 - <http://eurocloud.si/lang/sl/2014/05/18/pobuda-usmeritev/>

Competitions in EU and globaly

2011

- <http://eurocloud.si/2011/06/01/nagrada--eurocloud--slovenije--in--gzs--je--zakljucena/>

2012

- <http://www.eurocloud.org/press-release-slovenian-award-winners/>

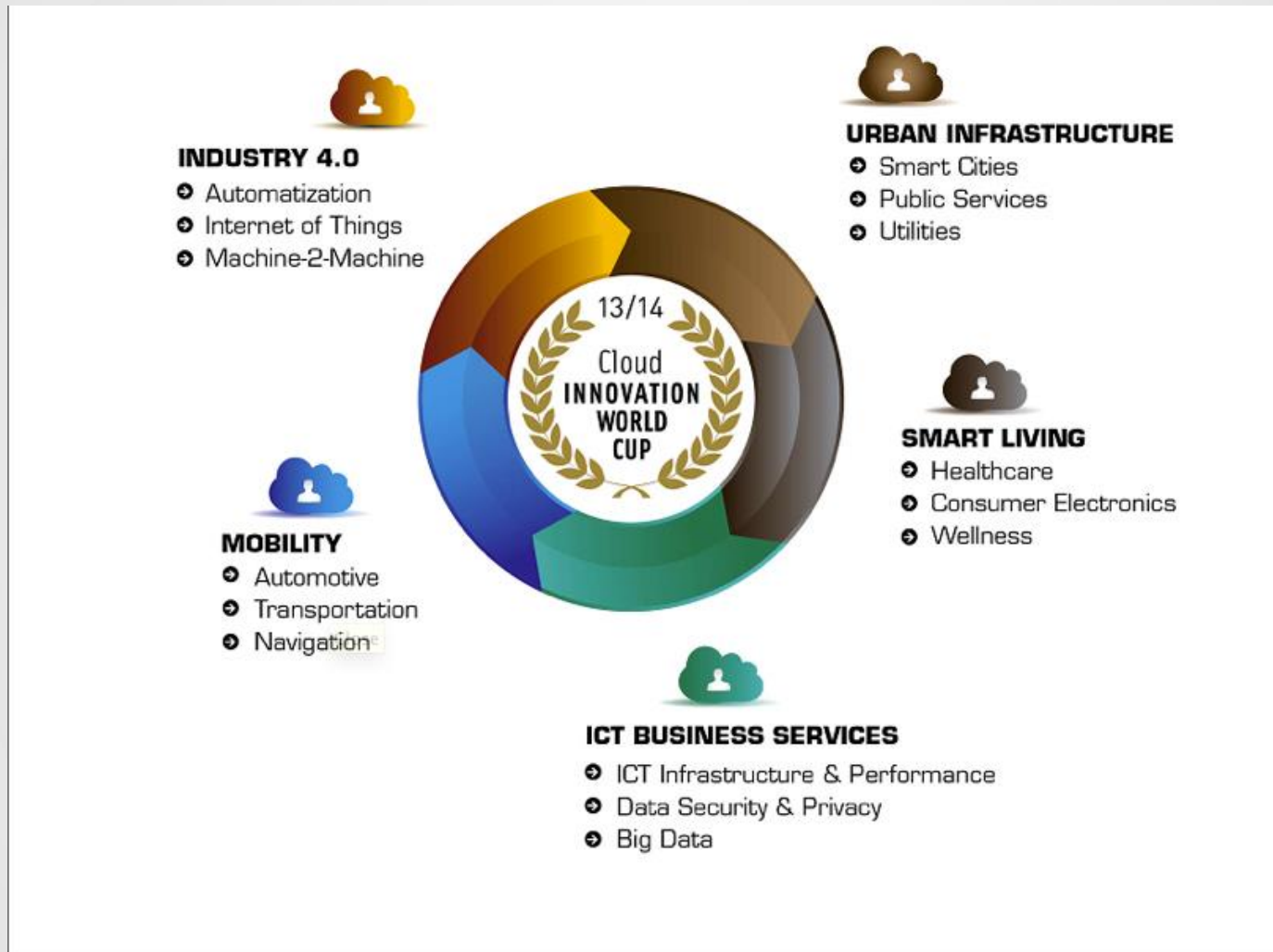
2013

- <http://eurocloud.si/2013/06/21/eurocloud-slovenia-award-2013-finalists/>

2014

- New** - <http://eurocloud.si/lang/sl/2014/05/17/eurocloud-award-program-2014/>
- Cloud Innovation World Cup - <http://eurocloud.si/lang/sl/2013/09/30/cloud-innovation-world-cup-kicking-off-at-eurocloud-congress-in-luxembourg/> - Slovenia Goopti cloud supported service was among best three

Cloud Innovation World Cup 2014



A/ Description of competence center program KC Class developed - 2011-2013

KC CLASS Operation: Key development areas

- develop knowledge, interfaces, services in the fields of cloud computing (**everything as a service - XaaS**), innovative services in the fields of **customer relation management** and **product lifecycle management**, learning through cloud services, managing logistic problems, e-health and **environment services**, Big Data, digital encyclopedia of natural and cultural Slovenian heritage, discovery a variety of events happening in their vicinity,...
- vision: to create new innovative ICT services within existing as well as emerging industries (smart cities, public services, health&ageing, living, mobility, ...)



How operation was designed back in 2010

A. Role of the partners

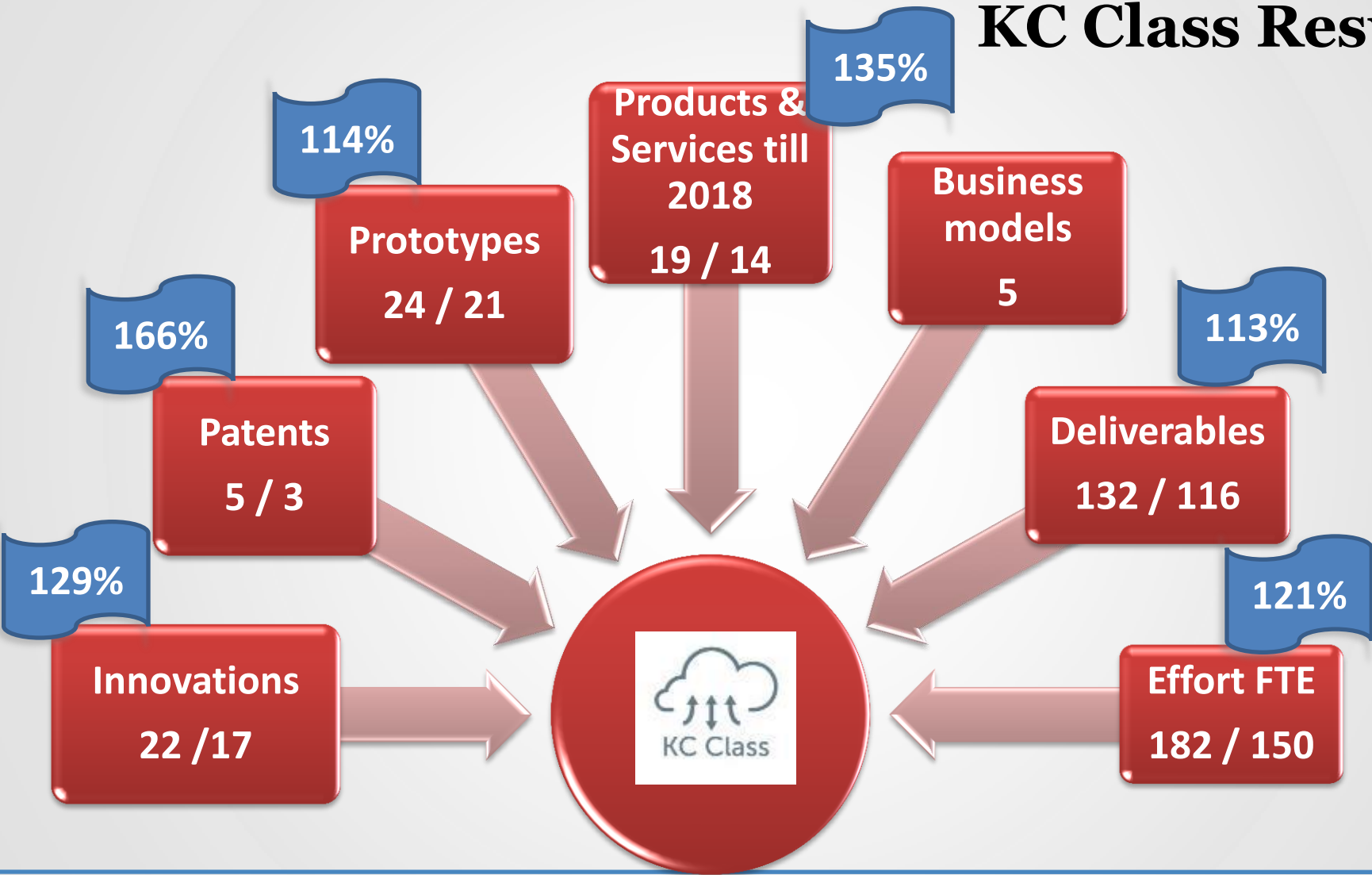
The consortium is divided into three basic groups of partners. The main task of research organizations



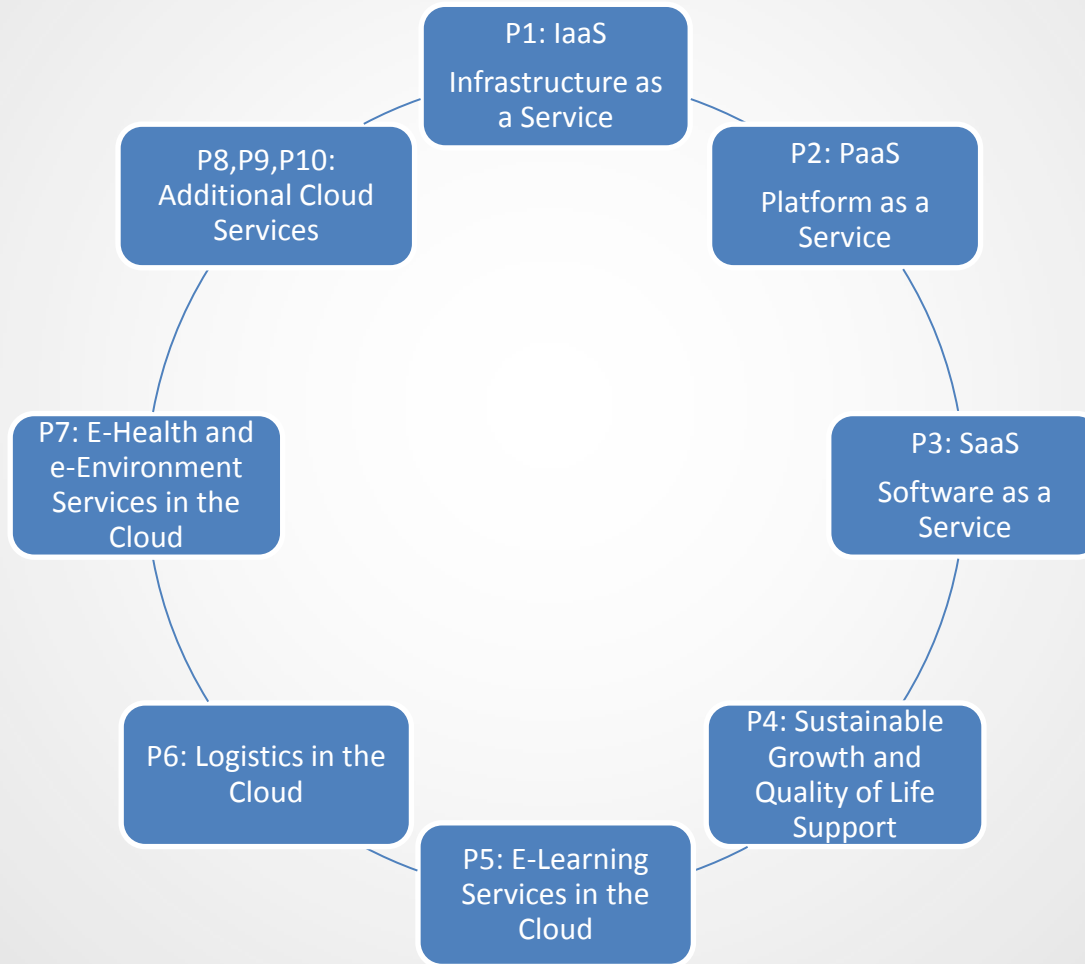
is conducting research in the project. They are followed by the development companies, whose key task is to implement systems and modules for the CLASS platform. The third group represents end-users, whose main task is the implementation of applications and validation of the final platform. Complementarity is shown in Table below.

	Research	Development	Application
Security	IJS, EF	INO, SC	SC, NIL, IAM
Reliability	IJS, IAM, FERI	NIL, JOC	SC, TI, EPL
Services	FRI	INO, IT	SM, CHS, TI, IAM
Data	FERI	IT, SC, IAM	EPL, NIL
Identity	ALP, IJS	NIL, IT, IAM	NIL, SM, IAM
Infrastructure	FRI	INO, JOC	JOC, SC

KC Class Results



Work Packages



+ Coordination and dissemination through EuroCloud Slovenia

- WP content
 - Positioning Slovene cloud “brand” in EU and globally
 - Creating EU certification program
 - Demo room in Slovenia
 - Internationalization & networking
 - Project results dissemination

WP description 1/3

- **WP1 - Infrastructure for the Cloud - IaaS:**

To provide built-in infrastructure components, which upgrade existing infrastructure with an elastic allocation of resources, sharing of clouds, distributed data storage and security mechanisms.

We have compiled and developed a software stack, recommendations and best practices that could make the migration to cloud computing simpler and cheaper for the companies. All stages of the migration to clouds have been considered, i.e. design, prototyping, development, testing, deployment, management and analysis

- **WP2 - Platform for the Cloud - PaaS**

Open platform enabling cheaper and faster transition of services to the cloud.

The goal of the project was development of an open platform as a service (PaaS) in a computational cloud for a simple and efficient transfer of existing or development of new applications as a service (Software as a service - SaaS).

- **WP3 - Support for SaaS Development**

Implement the services for statistics, ERP supporting interfaces, access point to security mechanisms (AAA) and integration with social networks.

The aim of this research and development project was to develop support services and technologies that will enable rapid and efficient implementation of applications as services (SaaS - Software as a Service) based on the infrastructure level (IaaS) and platform level (PaaS), developed within WP1 and WP2.

WP description 2/3

- **WP4 - Sustainable Growth and Quality of Life Support**
Advanced, cloud-based applications, CRM and PLM.
They include innovative process-oriented solutions for customer relationship management (CRM - Customer Relationship Management) and management of product life cycle (PLM - Product Lifecycle Management).
- **WP5 - E-Learning Services in the Cloud**
Design and implementation of a vertically integrated system for e-learning, emphasizing the business aspects.
- **WP6 - Cost-efficient Vertical Integration of Logistics**
To ensure complete vertical integration from micro to macro level of management and monitoring of products, monitoring of markets, indicators, demand and overstock.
- **WP7 - E-Health and Environmental Services in the Cloud**
To develop a collaboration system and a social network, allowing the patients to manage their health and service allowing for contact with patients using modern communication media and devices.
To research the possibilities for the prediction of health aspects on the base of environmental data.

WP description 3/3

- **WP8 - Big Data**

Development of multi-resolution analytics framework (also known as multi-level, multi-scale) operating on multiple data modalities (such as structured data, networks, text) and time.

- **WP9 - digital encyclopedia of natural and cultural Slovenian heritage**

Development of native mobile application for Android and iOS operating systems, which provides a simple and fast access to encyclopedia entries and interactive review of content.

- **WP10 - discover a variety of events happening in their vicinity**

Delivering information about happenings in the vicinity, to citizens of major cities around the world, through extensive use of hybrid cloud solutions.

Results can be found under

- <http://www.kc-class.eu/datoteke/presentation%20KC%20Class.pdf>

Case from Slovenia: Lean development through startCloud

Development of startup program startCloud

Based on our vision on startup GAP we are facing <http://eurocloud.si/wp-content/uploads/Position-on-innovation-through-cloud-computingSI-programs-development.pdf>) we have developed a program in partnership with Slovene telco provider Si.Mobil, EuroCloud Slovenia (KC Class) and Chamber of commerce (Zitex – export ICT organization within) and Hekovnik Start-up School.



The program is based on transferring knowledge from Silicon Valley, learning about market and cloud computing in **cooperation with experienced mentors from technical and business area.**

The goal is to help participants develop and monetize their business ideas. In the program participants work on their ideas, test the market, seek for their target market, and define the business model. Technical part of the program is focused on learning about cloud computing technologies, different approaches to developing cloud services, case studies, and ways of providing security and control of business solutions. Program is a mix of 22 lectures, workshops, and individual work with mentors.

Creating EU certification program



Creating EU certification program

ORGANISATION	DESCRIPTION
 The logo for EuroCloud, featuring a circular emblem with a blue and orange color scheme. The text "EuroCloud" is prominently displayed in the center, with "TRUST IN CLOUD" at the top and "EUROCLOUD EUROPE" at the bottom of the circle.	<p>EuroCloud Europe (ECE) is an independent non-profit organization that aims to facilitate acceptance for Cloud Services on the global market.</p> <p>In order to establish trust in cloud services EuroCloud Europe has developed the certification scheme EuroCloud Star Audit.</p>
 The logo for EuroCloud Star Audit (ECSA), featuring a circular emblem with a blue and orange color scheme. The text "EuroCloud Star Audit" is prominently displayed in the center, with "TRUST IN CLOUD" at the top and "EUROCLOUD EUROPE" at the bottom of the circle.	<p>EuroCloud Star Audit (ECSA). The purpose of the ECSA program is to avoid insecurities by assessing and auditing Cloud Services according to a set and published catalogue of criteria.</p> <p>ECSA is an international partner program based on European quality values for a worldwide usage.</p>



1

The EuroCloud Star Audit (ECSA) is a mature certification scheme, especially designed to assess cloud service.

2

Established in spring 2011 EuroCloud evaluates a cloud service against the requirements of the ECSCA audit scheme and covers all participants of the specific supply chain of a cloud service.

3

The ECSA audit has a non-negotiable mandatory bandwidth of all important areas of a cloud service:

3

- provider's profile
- contract and compliance including data privacy protection against local law
- Security
- Operations
- Environment and technical infrastructure
- Processes
- Relevant parts of the application and implementation
- Interoperability and data portability

4

ECSCA has a modular structure and offers three maturity level (indicated by awarded stars) it is not only suitable for large enterprises but can also be achieved by a SME-type of cloud provider.



5

If a cloud services matches the ECSCA audit criteria the ECSCA certificate is granted.



6

As far as there are no changes made within the cloud service profile and assessment areas, the certificate is valid for two years.

7

The ECSA certificate is a meaningful selection tool for customers who want to use trustworthy cloud services and it reduces the necessity to perform costly individual audits.



The EuroCloud Star Audit is a joined activity performed by the ECSCA partners within an eco-system.



9

With the ECSA EuroCloud Europe delivers a valuable instrument with a high level of transparency and guidance for customers and providers alike.

B/ Impact on national or local economy

- Sustainability was implemented in [KC Class](#) through 2018 (19 new services on global market)
- Development of startup program (<http://startcloud.si>) touching other industries through LEAN development - based on [GAP defined](#), within: Education, Sport, Bioinformatics, Wine production, Medicine, Ecommerce, Music, Geolocation, Event management, Warehousing, Transportation) and new jobs/startups creation - 47 projects, 45 workshops in 15 months
- New innovation cycle in Slovene Smart Specialization fields started
- Governmental cloud developments through <http://www.cloudforeurope.eu> & "Quantum Leap" project
- Boosting activities outside EU ([China](#), India)

C/ What were the challenges (financial, criteria, ...)- future plans

Financial:

- Public investment: **6.395.388,00 (85% EU; 15% SI)**
- Private investments: **2.930.000,00 EUR** (30% from each consortia member participation)
- On top investments: **4.959.000,00 EUR**

Criteria:

- Consortia partners parameter in SI – see bellow (Above average - GVA per employee&export from industrial partners)
- strategic partnership in joint R&D projects (to tackle „valley of death“)**

Performance

- Not every partner performs the same, so it is difficult to manage a project for longer period as programmed in the very beginning
- Lean development needs to be incorporated in mechanisms**

Bigger players against smaller, research versus industry:

- Developing innovation culture through LEAN development concept from research through industry towards market
- IP integration on common prototyping and “gotomarket” activities with proper business models behind**

<http://www.neweuropeaneconomy.com/home-mainmenu-51/leading-lights-mainmenu-63/461-slovenia-ready-for-a-new-wave-of-investors->

D/ Where was it difficult during and what were the lessons learned

Strengths

- We can develop our innovation ecosystem through lean development concept, where user centric models prevail
- strategic partnership in joint R&D projects should be industry driven (to tackle „valley of death“)
- Develop knowledge through market approach (business canvas, MVP proof of concept, ...)

Weaknesses

- Political changes influence on implementation of policies too often
- Development of local industry through cloud enablement – not enough knowledge on potential new business models behind

Opportunities

- **Public administration is difficult to convince to enable local SMB's innovation based on opendata datalayer & IaaS framework approach because there is not enough political will to understand of the economic potential behind**
- Smart specialization is our big opportunity for bringing innovations into pilots
- **Fostering collaboration between different stakeholders towards foreign markets through innovative public procurement models, such as PCP or PPP models**
- Main driver for collaboration is global market
- Implement interdisciplinary studies serving knowledge development
- **EU crowdsourcing model financing is a good way USA is moving forward - (develop Europe's "Kick starter" model)**

Threat

- Consortia partners typically follow their own strategy before joining
- Being local too long makes you not being able to try globally

E/ Future plans



***Slovene digital
coalition***

*(for digital jobs)
march 2014*

***SI-Slovene digital coalition
for digital jobs through
cloud enablement***

***DUŠAN KRIČEJ, state secretar
Cabinet of prime minister of Republic
of Slovenia***

Slovene digital coalition for digital jobs through cloud enablement

Cloud platform

D-r-O (state data cloud for state budget beneficiaries) – state owned)

H-r-O (hibrid data cloud for indirect state beneficiaries, such as municipalities, institutes, agencies)

I-r-O (Innovative-development cloud Paas platform)

Knowledge for growth

Knowledge development for new digital jobs

Inovative learning and teaching

Getting young people on board on ICT

Certifications

Digital literacy

E-inclusion (equal possibilities for all)

Mobility

FUEL for growth

Open data (portal NIO- national interoperability frame for data)

Reusable components and services

Standards

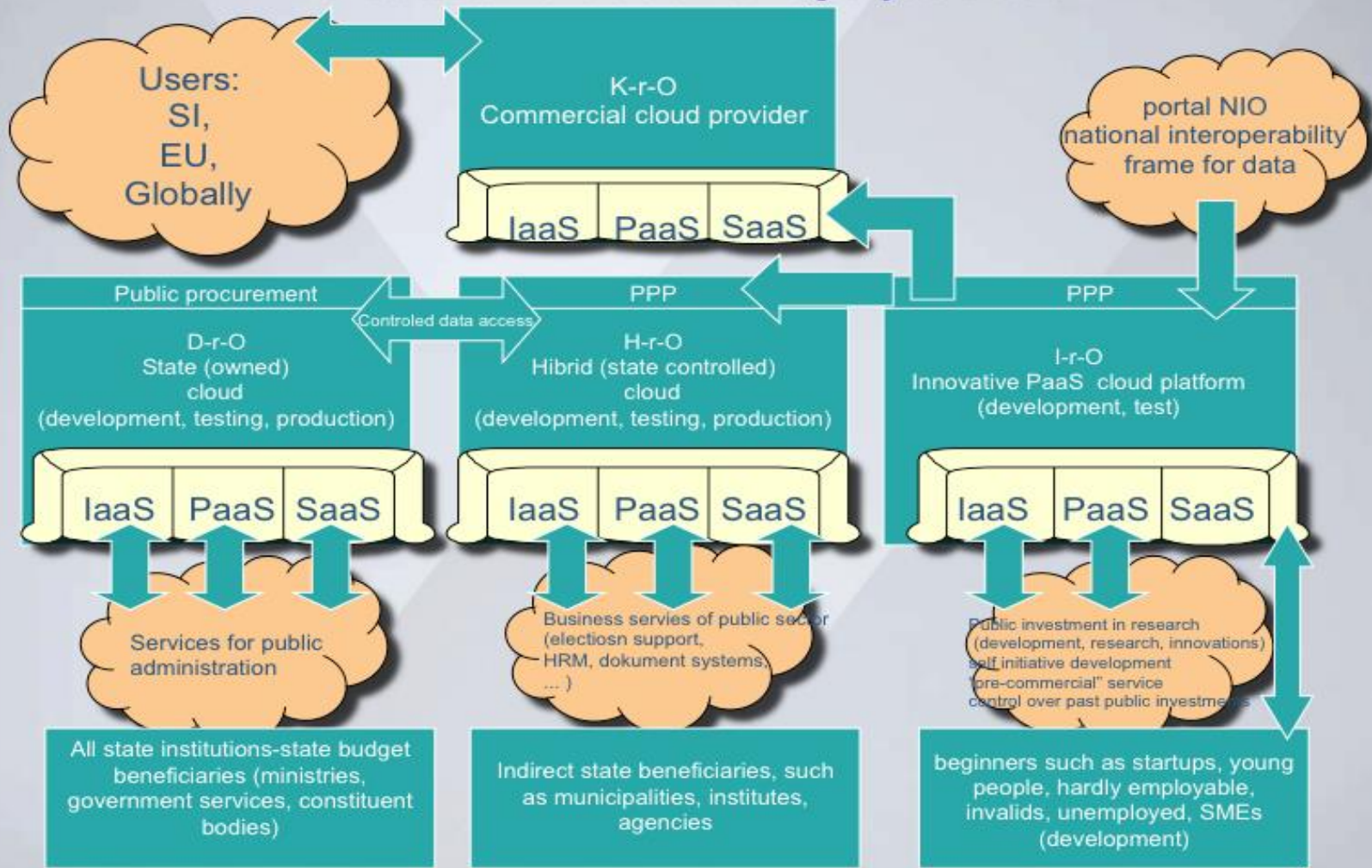
Higher accesasability of ICT (infrastructure - speed, price)

Raising awarnes of ICT importance (Promotion)

Digital Working places

2

Logical frame for different cloud platforms. Framework for the need of e-projects that are financed out of EU funds for new digital jobs creation



Slovenian Enriched Cloud Ecosystem for Innovation – 2014-2020

Smart Household

Mobile Home
Smart Home
Telemedicine

Smart Government

Personal services
Open Government
SmartEconomy

Safe Society

NG Emergency Serv.
Notification Service
First responders

SME Innovation

iBusiness
eGreen&Forest
eLearning

Innovative Vertical Applications

Communication

Computing & data analytics

Security, Privacy and Trust

Domain Specific Services

Platform Services Ecosystem

Operational Services

Service Connectivity Cloud



IT & Real-time Cloud (IaaS, PaaS)

Service Connectivity Cloud



Guaranteed E2E QoS for IoE, HA and determinism



Cloud INNOVATION NETWORK

Bridging grant and investment markets with evidence-based entrepreneurship

Challenges

General challenges:

Fragmentation of knowledge and competences

Bridging science-driven and innovation-driven research

Enhancing innovation potential in SMEs

Specific challenge is to integrate and bridge:

- Financial instruments to support innovation projects in SMEs
- Research, innovation and societal EU/regional policies
- Research/Innovation/Industry

Our Approach

Innovation Network

Cloud-4-SMEInst

Business Models Evidence-based Entrepreneurship

Standardized description of how a company generates, delivers and captures value

Market and business model validation parallel to product development

Knowledge and information sourcing for value chain actors

Communication channel for regional and EU policies, market intelligence, and the business environment

Outcomes & Impacts

Outcomes:

Standardized evaluation and monitoring of publicly-funded projects for SMEs

“SME-friendly” communication of policy instruments and resources

Platform for evidence-based entrepreneurship and agile product development at the very start of innovation development

Impacts:

Opportunities for SMEs to address emerging markets

Bridging grant and investment markets

1 Funding Readiness Level
Problem/Solution fit demonstrated
Horizon 2020 SMEInst Phase 1

2 Investment Readiness Level
Product/Market fit demonstrated
Horizon 2020 SMEInst Phase 2

3 New value chains
Company growth
Horizon 2020 SMEInst Phase 3

Startup developments - EU commission support on startup eco- system 2014-2020 (1/2)

- The Startup Europe initiative is an action plan aimed at strengthening the business environment for web and ICT entrepreneurs in Europe and contributing to innovation, growth and jobs
- The initiative is based on 5 pillars of action: Network Creation, Celebration and recognition, Evidence gathering, Funding opportunities and Scaling-up Tech Business.

Startup developments - EU commission support on startup eco-system 2014-2020 (2/2)

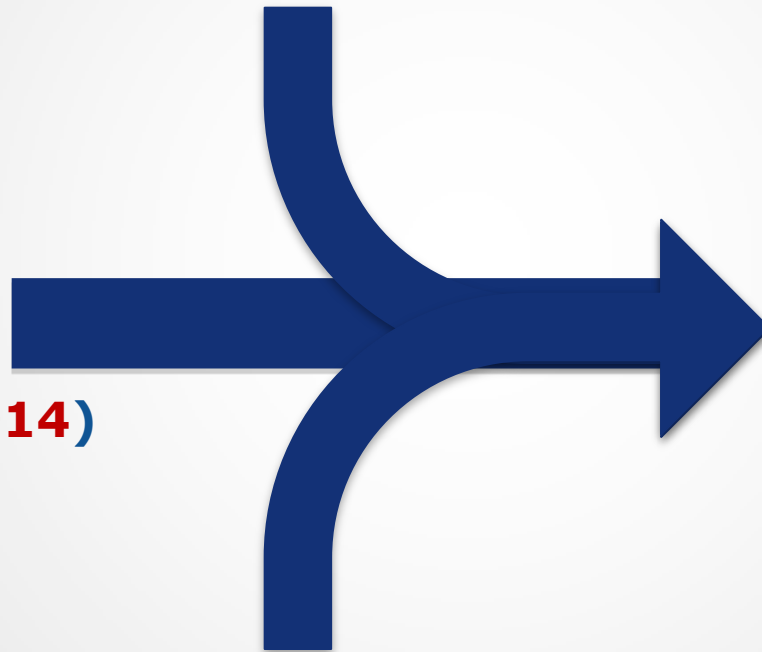
- we have created networks of stakeholders willing to make a real shift within their field of action [Accelerator Assembly, Web Investors Forum, Crowdfunding Network, Coworking Assembly]
- we celebrate and recognize the merits of the web entrepreneurs (NK Tour, Techallstars and Europioneers competitions); The Startup Europe Leaders Club — an independent group of founders in the field of tech entrepreneurship developed a manifesto for economic growth in the internet economy. So far more than 7,600 entrepreneurs have signed the Manifesto. <http://startupmanifesto.eu/>
- we gather evidences to get a stronger EU tech entrepreneurship ecosystem: we are building a dynamic map of 20 startup EU ecosystems and we have found that there are 1.8 mil jobs within the EU app economy through a recent study [Eurapp].
- **As for funding opportunities, we are in the process of allocating €10M funding as our deadline for applications has just ended. However, there are several Calls available for SME and Startups with a budget of over 800M Euros in 2014 such as SME Instrument or Cosme programmes:** <http://ec.europa.eu/digital-agenda/en/better-access-capital-lower-barriers-success>
- we are taking the startups to a next level, helping them to scale up through Startup Europe Partnership, putting together corporates, web startups and universities.
- **In terms of successful companies, please find here a list of 120+ EU companies** <http://tech.eu/features/186/ignorance-is-remiss/>
 - made by Outfit7 (Slovenia/Cyprus)
 - CubeSensors (Slovenia)
 - Farmeron (Croatia)

H2020 WP2016-2017 preparation

Internal EC consultation

Public
consultation
(Sept 2014)

Workshop (Nov 2014)



Adoption: Q3 2015?

H2020 WP2016-2017
ICT?, ICT?, ICT? ...
EUJ? EUB? EUK?

Other sources: reports available at public consultation website,
outcome of CloudWatch concertation

Further information

- <http://ec.europa.eu/digital-agenda/en/news/public-consultation-cloud-computing-and-software-engineering>
- Please disseminate and encourage contributions

Objectives of the Break-outs

- Topics informed by the 45 submitted position papers
- Discuss on research topics about software engineering for future WP 2016-2017
 - What should be funded in next calls?
- Consolidate discussion in set of concrete recommendations
 - Concentrate on few but strong topics to avoid dispersion on the discussion
- Not focused on your own projects
 - But leverage on them as current research

Open Source Research

Recommendation	Why is this a priority	Timescale	Impact	Security / Risks
Foundation (main outcome)	Need to attract interest and promote sustainability and exploitation; need for curated, stabilized and evaluated projects;	Repository; marketplace; dashboard; Roadmap for a foundation;	Facilitate access to quality curated projects that grow out of EU projects. Build something that endures will benefit all stakeholders;	
Quality and Risk Assurance	We need quality metrics to start adoption and evaluation (for adoption and procurement) Governance is a requirement for establish tools and processes; responsibility (ownership , maintenance, and support);	Metrics;	Support, long-term relationships,	
Procurement	Help stakeholders find and use quality software			
Software Patents	Implementation of open source projects faces threats from patents (due to implementation restrictions); previous/pre-existing patents.	Long-term view; political plane; Should be an awareness topic;	May prevent or hinder software development.	Not a big issue in EU, but it's not airtight (US).
E2 Concertation meeting Shaping & Preparing the H2020 LEIT ICT WP2016 -2017 - Making Your Views Matter! - 11 September 2014				

Software Engineering Research

Recommendation	Why is this a priority (Challenges or gaps)	What technological innovation is needed	Impact on market	Main beneficiary
Software behaviour prediction supporting decisions in development process	<p>Large investments (effort and cost) on SW development that afterwards is not complaint with requirements</p> <p>Lack of decision support for developers in selecting the right path in development choices</p> <p>To foster reusability and other n-bilities</p> <p>Reducing the cost of making the n-bilities decision and trade offs</p>	Models, (Dynamic) metrics and supporting tools for concepts such “technical debt”, “requirements testability”	<p>Saving investments costs in SW development</p> <p>Reduce risk in SW dev decisions</p> <p>Reduce time the market for SW transition</p>	<p>SW developers companies</p> <p>Technology companies</p>
Adaptive software design triggered by events (data, infrastructure, apps, etc) and non-functional requirements (policy changes adaptation, i.e.) at run-time	<p>Software is not context-aware for now</p> <p>Build a more efficient software from different aspects (energy, scalability, flexibility, privacy, etc)</p> <p>Supporting decisions at run-time</p> <p>Lack of control of execution environment</p>	New design patterns Software engineering processes (programing and data models) and development processes	<p>Easier and cost-effective software operation and maintenance</p> <p>Broader offering since it is not coupled anymore to infrastructure</p>	<p>End-Users</p> <p>SW developers companies</p> <p>Technology companies</p>

E2 Concertation meeting Shaping & Preparing the H2020 LEIT ICT WP Simulation - Making Your Views Matter! - 11 September 2014

Cloud Computing Research

Recommendation	Why is this a priority (Challenges or gaps)	What technological innovation is needed	Impact on market	Main beneficiary
Trust	Enable increasing cloud adoption	Tradeoffs between security and privacy/perf (client/host). Real-time threat analysis and presentation, accountability, dynamic/usable certification, data IPR	Market growth and jobs.	All stakeholders
Disruptive Applications and usage patterns	Drive the changes beyond resource sharing services, disparate data sources and sinks (IoT, Mobile, Gaming, data science ...) getting people to interact in any ways, e.g. Social networks, social interaction	Customization, self-adaptation, responsiveness (highly), self*, application driven cloud management (sensitivity), interoperability, data gravity/mass	Enhanced enabling power. Engage new cloud consumers	All stakeholders

Cloud Computing Research

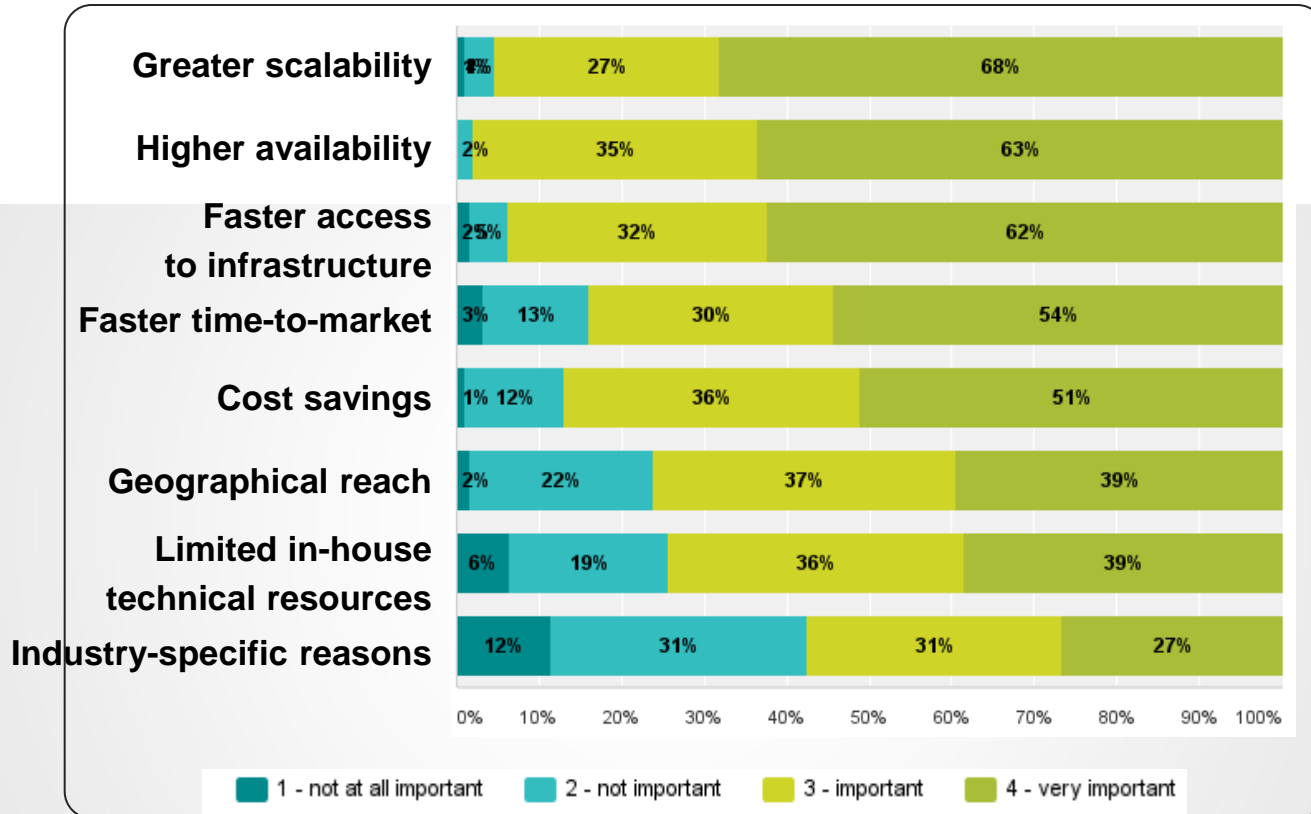
Theme	Why is this a priority (Challenges or gaps)	What technological innovation is needed	Impact on market	Main beneficiary
Dynamic real-time Heterogeneous clouds	Hybrid, multi, federated, portability of data and applications	Dedicated design patterns, programming models, Performance, management, benchmarking/metrics, [policies, economics and legal ramifications]	More choice, better competition, clear gain for small players	SMEs, public administrations
Cloud Operations	Providing large scale cloud is still restricted to small no. players	Datacentre relevant customization, self-adaptation, (highly), self*, automation, equipment interoperability, monitoring, energy efficiency, responsibility	Simplifying provision of cloud services, multiple layers from the same provider	Consumers[users of cloud] through more choice, providers{simplification and cost reduction of operation], private cloud more similar to public cloud enabling easier transition
Business models	Engage new users	Not only technology but models and processes to apply new apps and deliver	Engage new cloud consumers (EU + local)	European citizens

Information

- Great work is already on going
- Getting this to the consumer and possible beneficiary of this is still a challenge
- Cloudscout, [Cloud Catalyst](#), others all about getting information from the user/consumer
- Need to ensure we can get the information to the user/consumer

Motivators to Move to the Cloud

GLOBAL



The top 3 reasons for cloud adoption are related to the infrastructure management benefits that the cloud paradigm brings: More flexible and quick scalability, redundancy and high availability, and faster deployments of new projects.

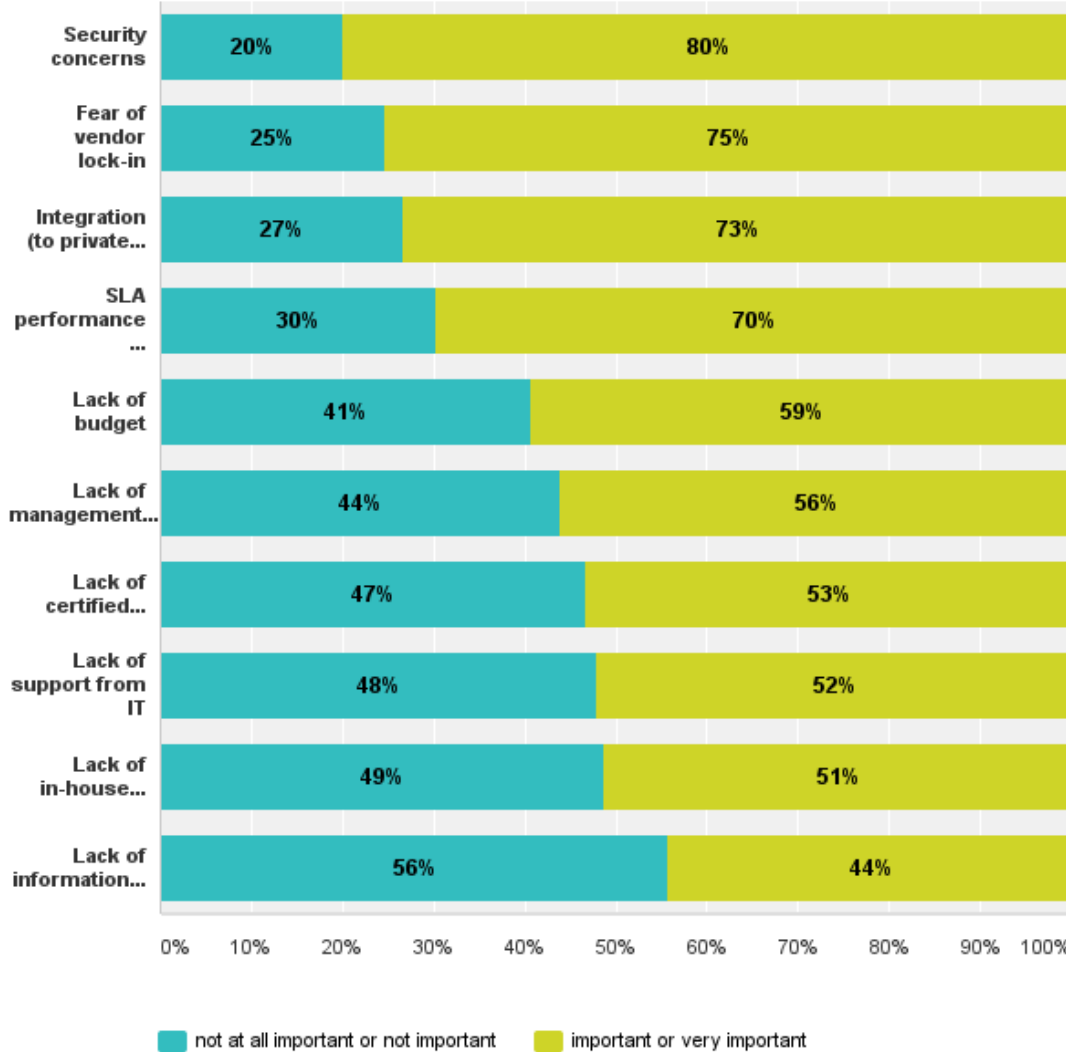
Barriers to Move to the Cloud

GLOBAL

1. Security concerns
2. Fear of vendor lock-in
3. Integration (to private cloud, to internal systems and between platforms)
4. SLA performance is not acceptable
5. Lack of budget
6. Lack of management buy-in
7. Lack of certified providers
8. Lack of support from IT
9. Lack of in-house capability to evaluate cloud solutions
10. Lack of information about cloud

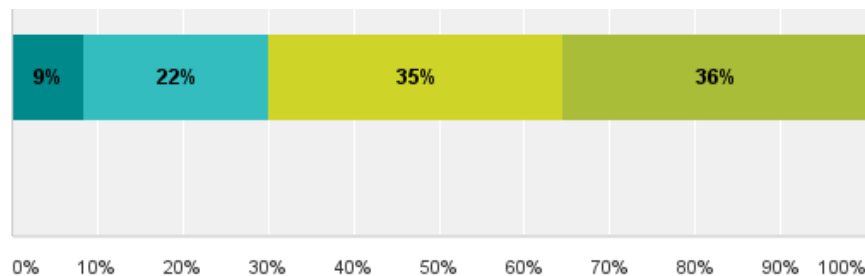
The 3 more important barriers that organizations encounter when they try to move to the cloud are technical: security concerns, fear of vendor lock-in, and integration to their existing infrastructure.

The lack of information and people to evaluate and implement cloud solutions are also issues, although not so important.



How important is keeping the data in your country?

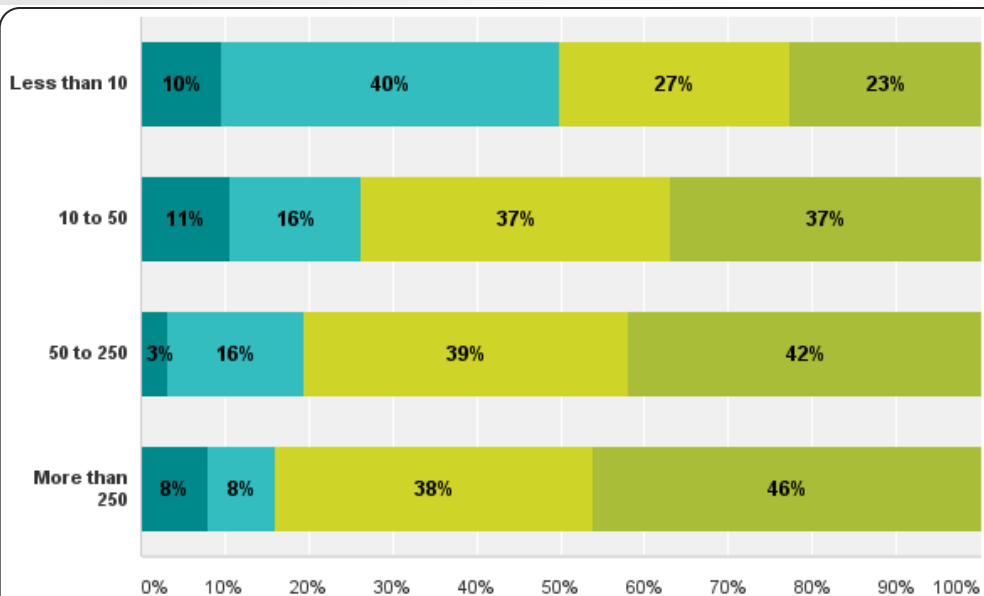
GLOBAL



Having the possibility to keep the data in your own country, under the same legislation, is a very important issue.

It is a more important consideration for bigger companies.

BY NUMBER OF EMPLOYEES



1 - not at all important 2 - not important
3 - important 4 - very important

For entrepreneurs that want to create a cloud computing product

Know what companies value about the existing cloud offerings, the barriers they find to adopt them, and the regulations that they will require you to comply with. The insight this survey provides should be useful to tailor your product to the needs of your specific target.

- There will be a high growth in **Hybrid** deployments in the near future.
- Give companies what they expect from the cloud: **High availability** and **scalability**.
- Many companies will base their decision on the **security** standards, guaranteed by SLAs
- Companies don't want to use a cloud product with **vendor lock-in**, offer **interoperability** through **standard APIs**

For entrepreneurs adopting cloud computing

Take into consideration the barriers and requirements that other companies have reported. Small and recently created companies should review the answers of bigger and more consolidated companies, to plan accordingly for the future.

TODO: summary of barriers and requirements that small/young companies should be aware of

CloudWATCH

Cloud plugfest

- Have you implemented open standards?
 - E.g. OCCI, CDMI, OVF, TOSCA?
- Are you up to the challenge of testing it against others?
- Take the opportunity to influence standards?
- Test with people locally, and worldwide!

- Participation is free!
- <http://www.cloudwatchhub.eu/cloudwatch-cloud-plugfest-and-standards-profile-workshop>

25 September 2014, Amsterdam, NL

Questions???

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[*www.kc-class.eu*](http://www.kc-class.eu)

[*www.eurocloud.si*](http://www.eurocloud.si)