



# European Cloud Computing Strategy – an overview

**Ken Ducatel**

*European Commission*

*Information Society and Media Directorate General*

*Head of Unit*

*Digital Agenda: Policy Coordination*

# History matters

*January 2010*

*Expert Group on Cloud Computing recommended:*

- ❖ **Policy actions are needed at EU & Member states level to handle the economic and legalistic issues**
- ❖ **Research and technological development is needed to overcome current cloud limitations**



# European Cloud Strategy



*January 2011*

- *Vice President Neelie Kroes announced in Davos three axes for action:*
  - **Legal Framework**  
Data protection, privacy laws, user's rights
  - **Technical & Commercial**  
Research & standardisation
  - **Market**  
Member states engagement, pilots, public procurement

**The Strategy will be ready in 2012!**



# Consultations 2011

*May - December 2011*

- ✓ ***Industry Consultations***
  - **High level industry** stakeholders
  - Focus groups: **Telcos, SMEs, Users**
- ✓ ***Public, web-based consultation***
- ✓ ***Cloud Computing Expert Group meetings***
  - **Research Recommendations for the future Cloud technologies**
- ✓ ***International discussions***

## Major Cloud Challenges – by industry & users

- **Interoperability & standards**
  - lock-in risks
  - portability of data, security settings;
- **Contractual Issues**
  - Contract templates
- **Privacy & Legal**
  - Data Security and Traceability:* where is my data? whose law applies? who can access it?
- **Governance, control**
  - no control of licensing terms, SLA, use of legacy application
- **Security, Dependability**
  - data, outages

...

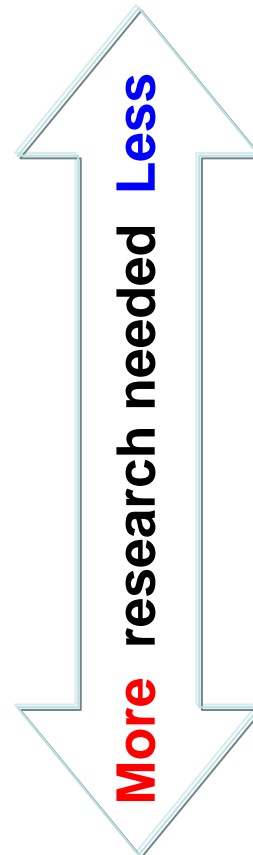


European  
Commission

# Cloud Research Issues – Major Technological Issues

## Usage

- *Virtualisation*
- *Availability*
- *Multi-Tenancy*
- *Pay per use*
- *Elasticity*
- *Quality of Service*
- *Tool support*
- *Reliability*
- *Metering*
- *Agility and adaptability*
- *Data Management*
- *Programmability*
- *Energy Proportional Computing*
- *Security, Privacy and Compliance*



## Provisioning

- *Pay per use*
- *Virtualisation*
- *Multi-Tenancy*
- *Availability*
- *Elasticity*
- *Energy Proportional Computing*
- *Metering*
- *Reliability*
- *Tool support*
- *Quality of Service*
- *Data Management*
- *Programmability*
- *Agility and adaptability*
- *Security, Privacy and Compliance*

# Cloud Computing Strategy in preparation

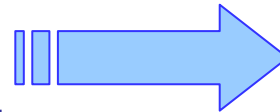
**Industry Recommendations**

**Public Consultation analysis**

**Cloud computing expert group**

**EU Policy framework**

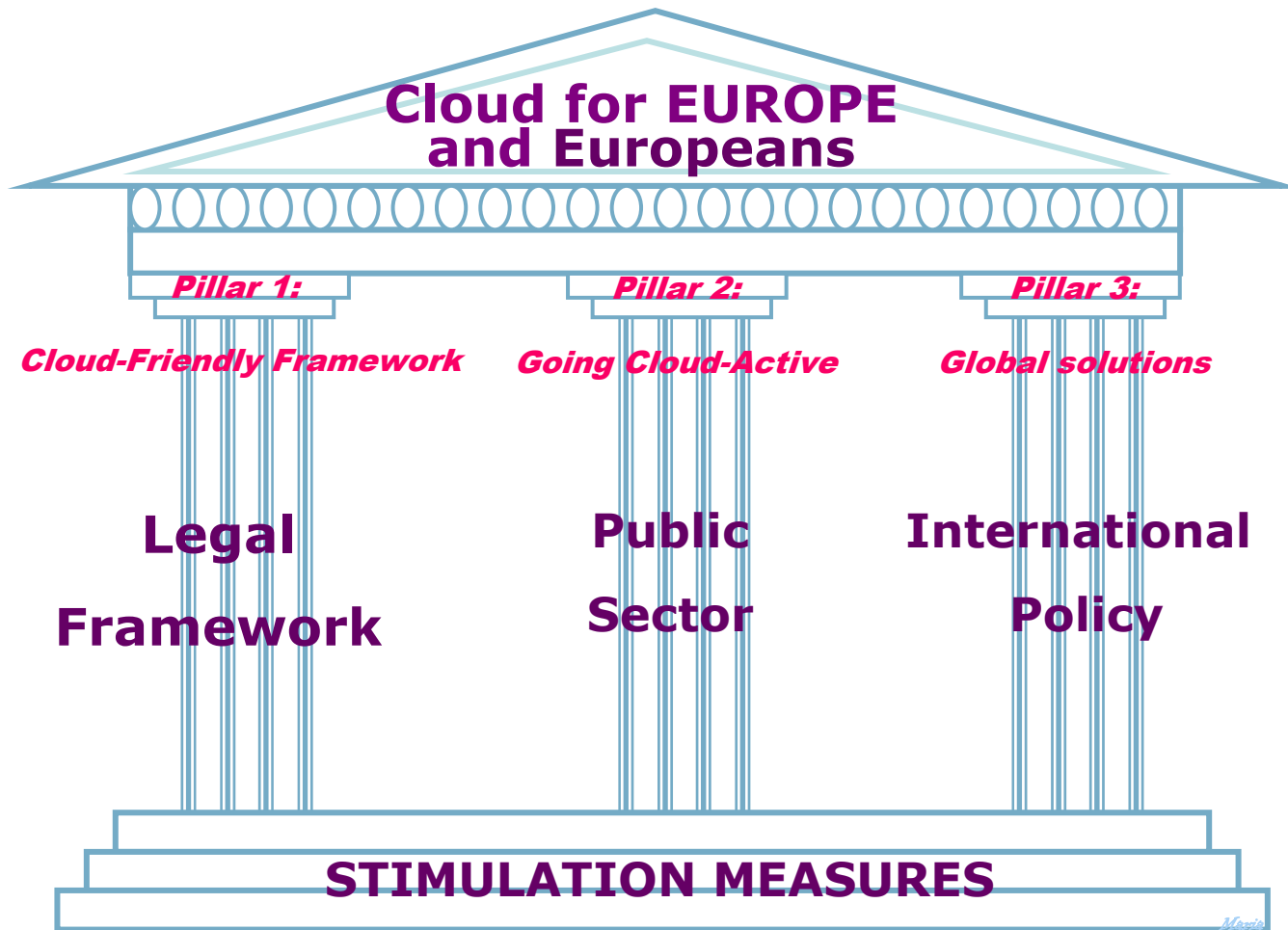
***... and many other inputs...***





European  
Commission

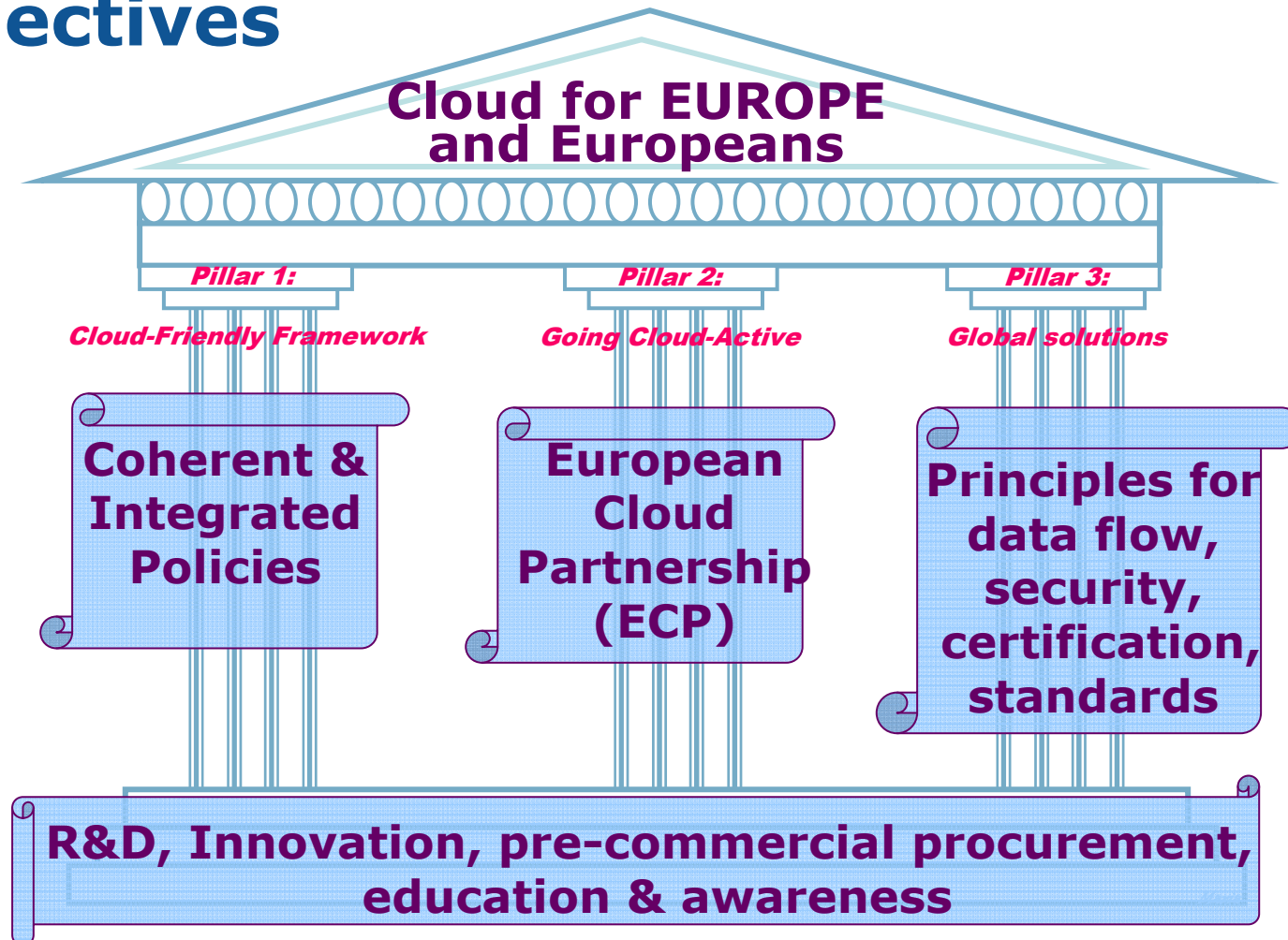
# European Cloud Computing Strategy



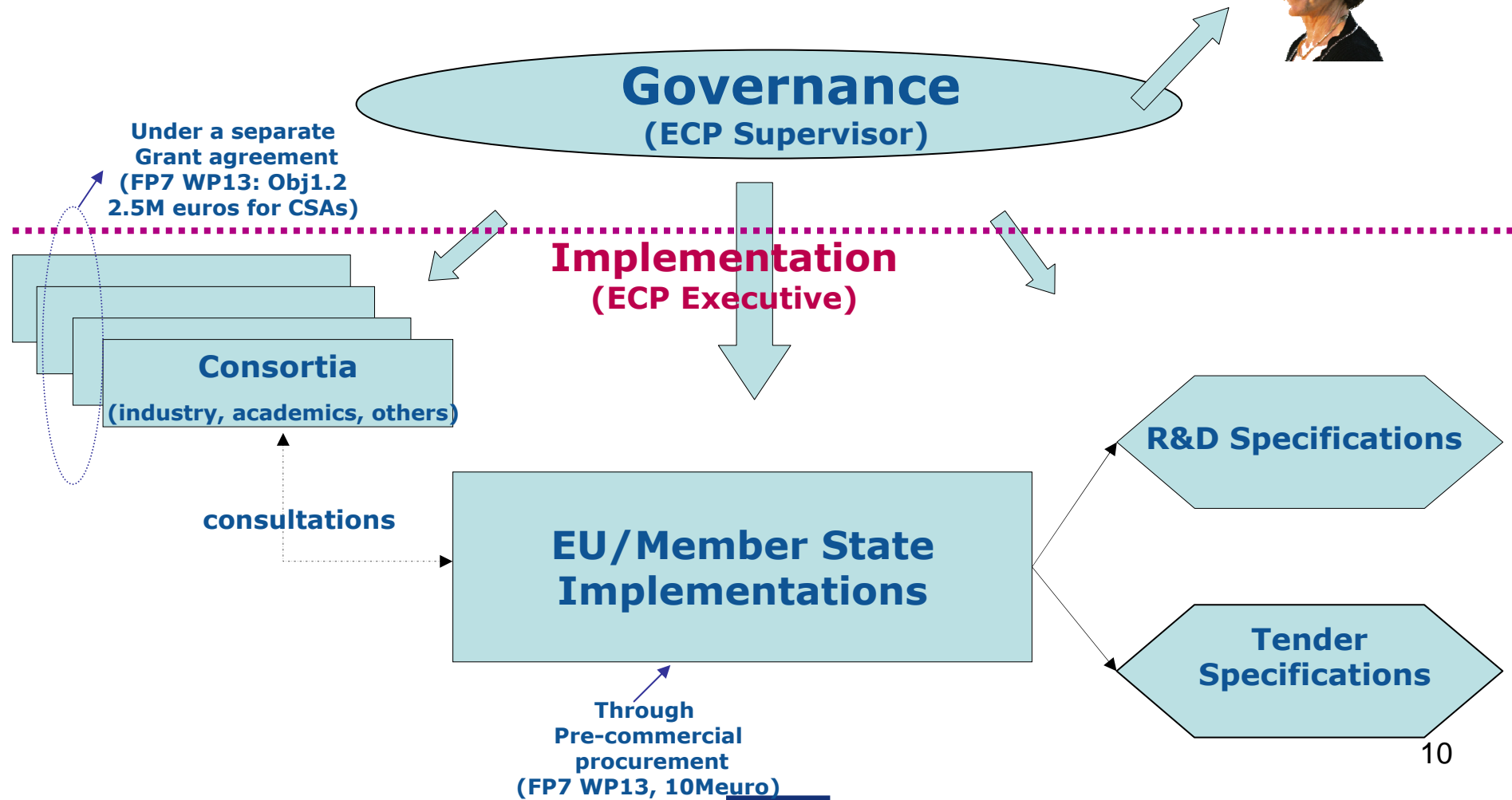




# European Cloud Computing Strategy - Objectives



# European Cloud Partnership – Phase 1





# Conclusions

- *Cloud Computing is **changing** the market and the structure of the IT and telecommunications industries*
- *The work of the Cloud Experts Group has triggered actions within the Commission*
- *Europe needs to become "**Cloud-Friendly**" & "**Cloud-Active**"*
- *The **European Cloud Strategy** will be ready in the 2<sup>nd</sup> half of 2012*
- *The Commission is putting in place the right **regulatory framework** to stimulate and support Cloud Computing*
- *The Commission is setting-up the **European Cloud Partnership** to overcome the fragmented public sector demand for cloud services in the EU*
- ***International policies** are needed to address cross-jurisdictional issues of Cloud Computing*
- ***Research priorities** on Cloud Computing are discussed with Cloud Experts*



## Further Information

- [http://ec.europa.eu/information\\_society/activities/cloudcomputing/library/index\\_en.htm](http://ec.europa.eu/information_society/activities/cloudcomputing/library/index_en.htm) - Cloud Computing
- [http://ec.europa.eu/information\\_society/digital-agenda/index\\_en.htm](http://ec.europa.eu/information_society/digital-agenda/index_en.htm) - Digital Agenda
- <http://cordis.europa.eu/software-services> - Software & Service Architectures and Infrastructures

Mail to:

**INFSO-ST@ec.europa.eu**