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Conference Services

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The slide features a blue and white design. On the left, a vertical blue bar contains the text 'science for global insight' in white. The top left corner has the IIASA logo and text: 'International Institute for Applied Systems Analysis www.iiasa.ac.at'. The main title is 'Digitalization; threats and opportunities from national economy perspective'. Above it is a quote: 'We are living in the situation of "unprecedented unpredictability" (OECD Strategic Group)'. The presenter's name and affiliation are 'Leena Ilmola, Senior Scientist, Advanced Systems Analysis Program, IIASA'. The date is 'Venice, May 24, 2018'. The bottom right corner has the IIASA logo and full name: 'IIASA, International Institute for Applied Systems Analysis'.

International Institute for Applied Systems Analysis  
www.iiasa.ac.at

*We are living in the situation of  
"unprecedented unpredictability" (OECD Strategic Group)*

## Digitalization; threats and opportunities from national economy perspective

Leena Ilmola, Senior Scientist  
Advanced Systems Analysis Program, IIASA

Venice, May 24, 2018

IIASA, International Institute for Applied Systems Analysis

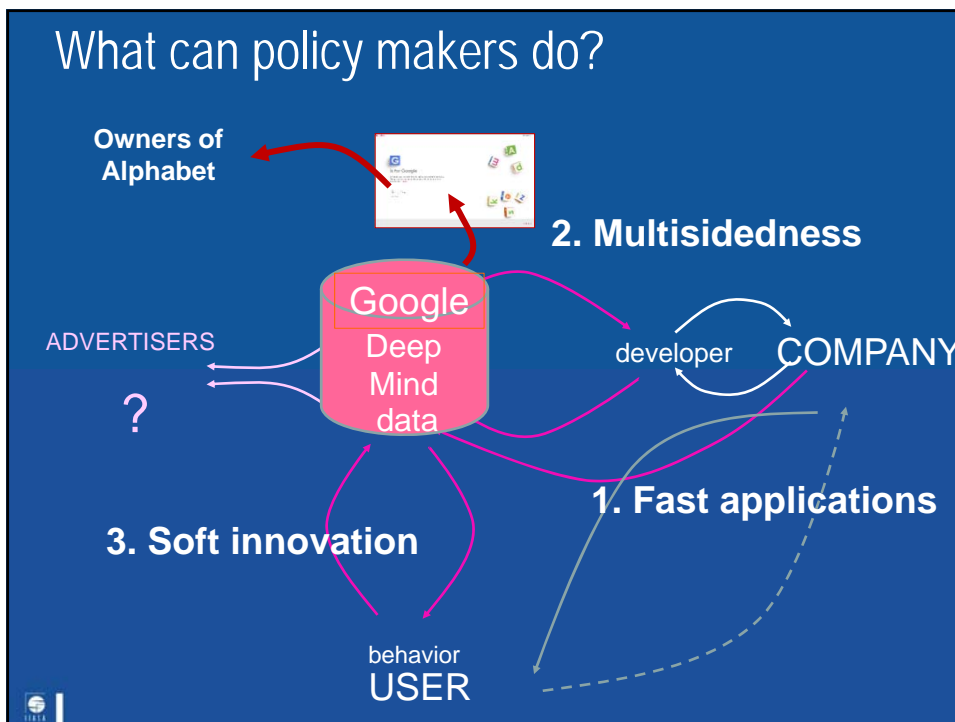
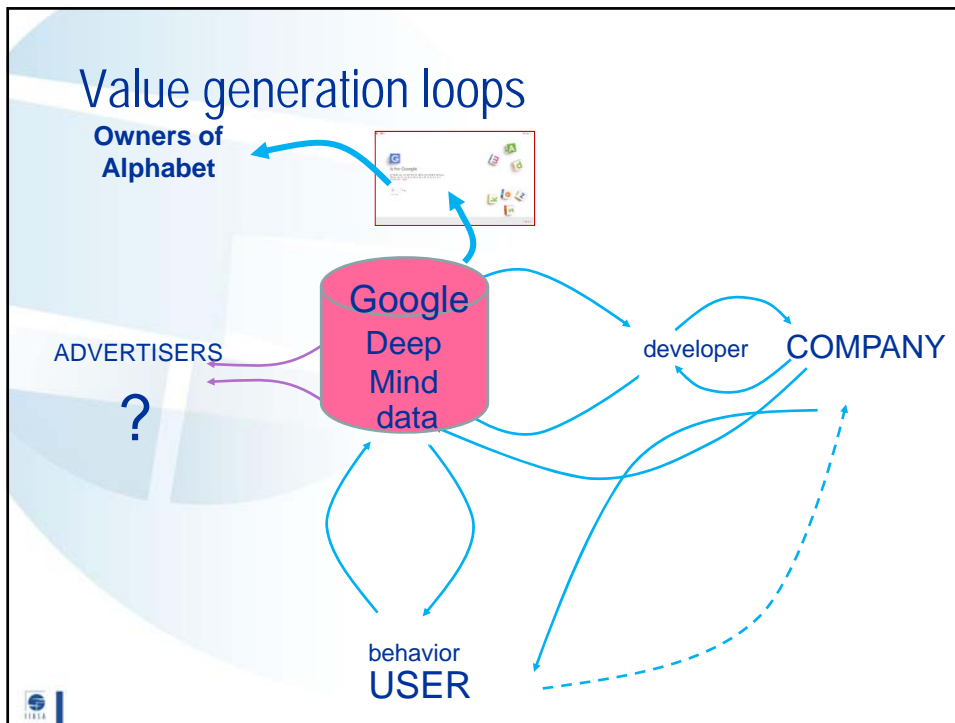
## Growth policy options in two examples

1. AI platform and ecosystem
2. Industrial smart materials platform and ecosystem

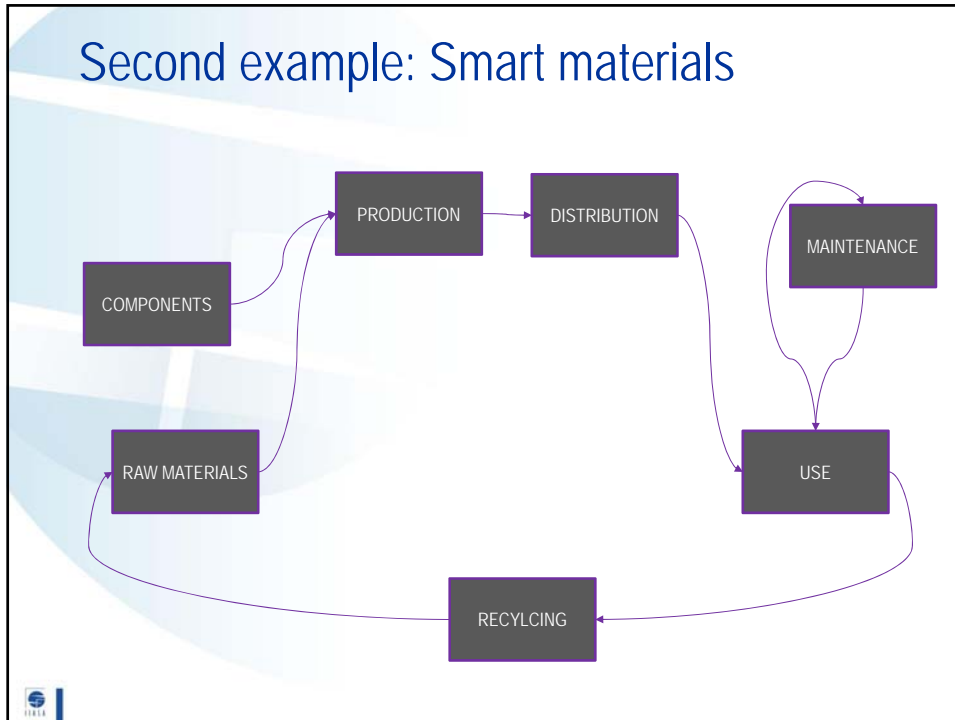
Resilient policy strategies

Recommendations for concrete policies

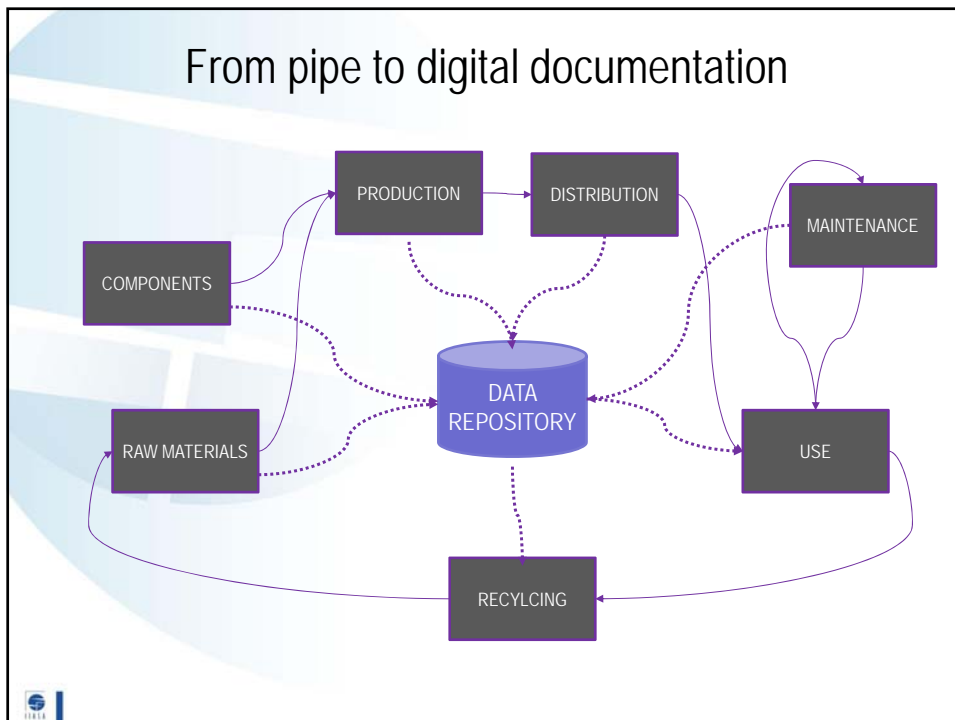




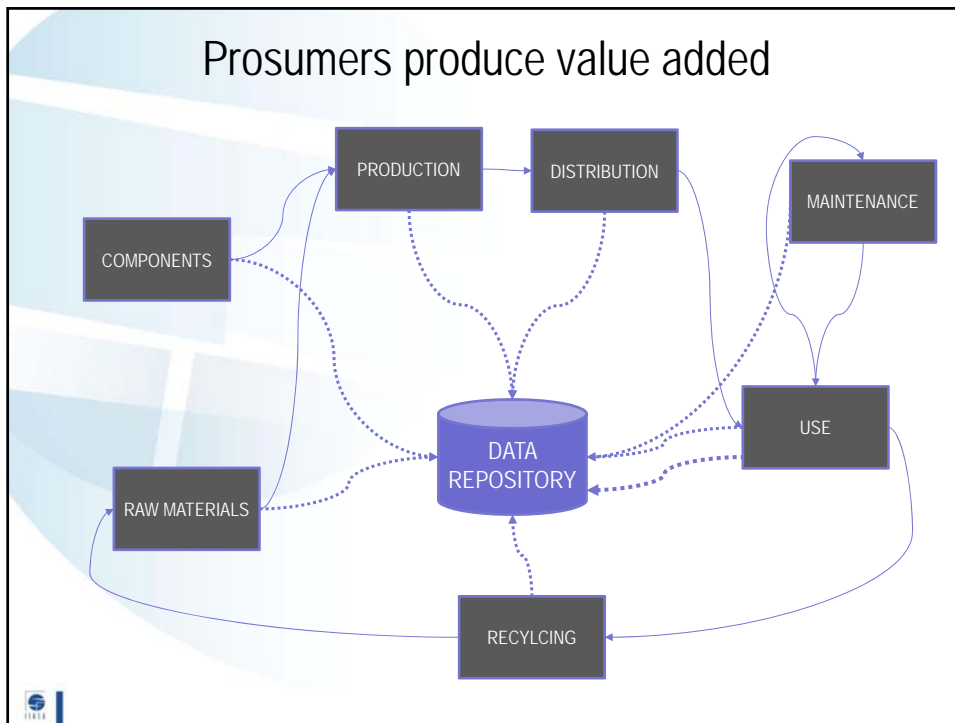
## Second example: Smart materials



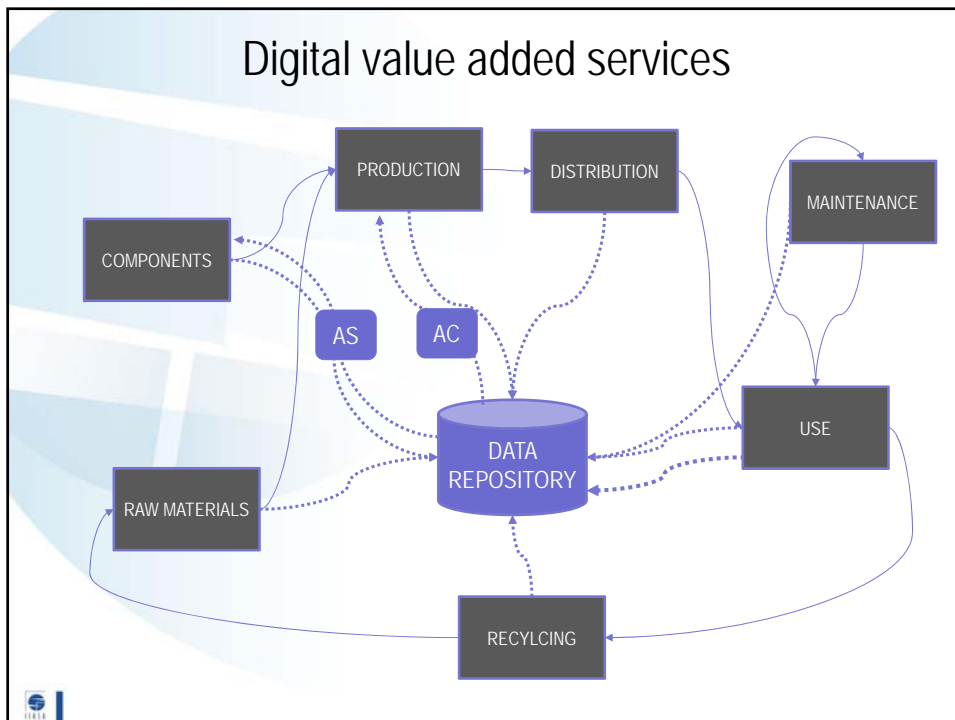
## From pipe to digital documentation

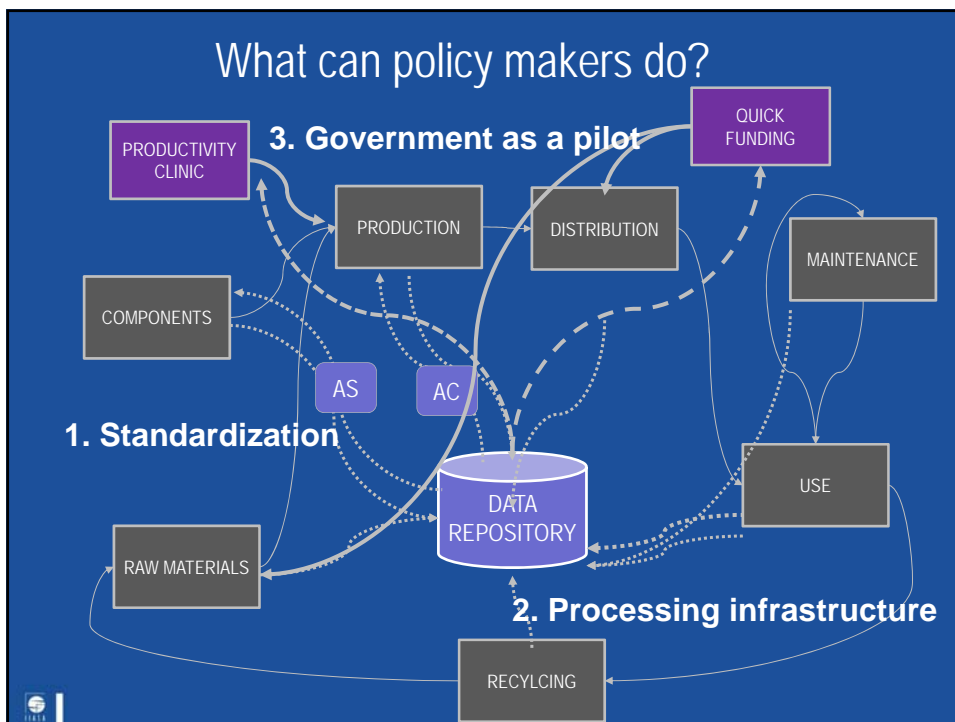
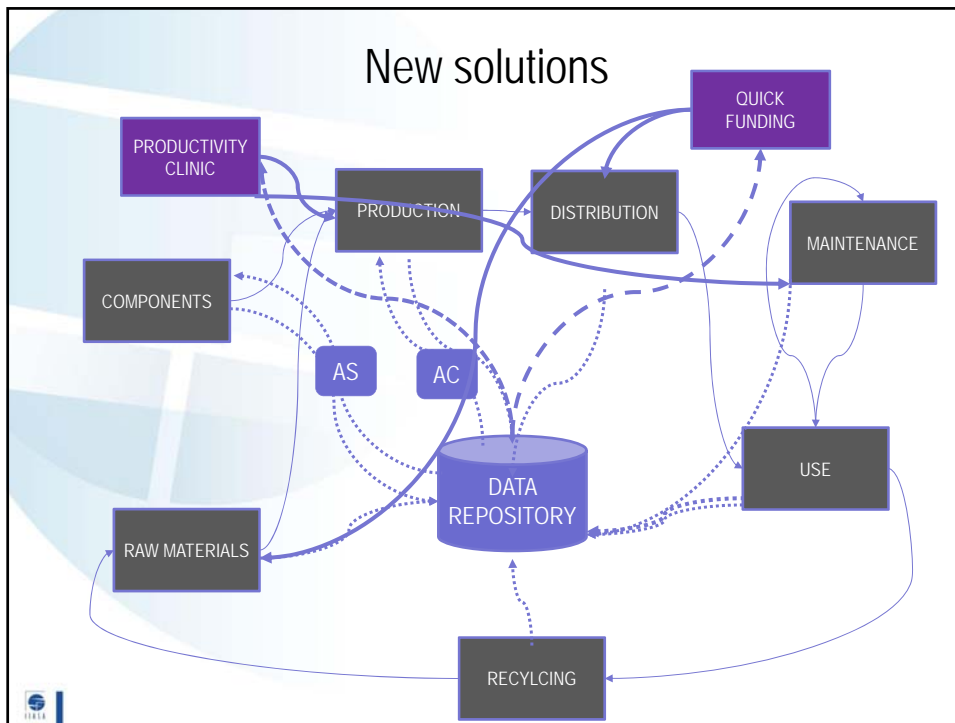


## Prosumers produce value added



## Digital value added services





### 3. Policy options

If not implemented development  
■ will slow down,  
■ no development

**II VISION DRIVEN STRATEGY:**  
 Government facilitated but cross sectoral stakeholder driven vision, that is defining refocusing of existing policies.

**III KNOWLEDGE DRIVEN STRATEGY:**  
 Generic Platform Competence center  
 Fast nanodegrees,  
 Focused research grants

**IV ACTIVE CONTRIBUTION STRATEGY:**  
 Selection of sectors (security, health),  
 Gov as a share holder of JVs initiated by companies,  
 Platform business toolboxes.

**V PUBLIC SECTOR AS A PIONEER:**  
 Systematic development of PPP JVs for platform ecosystems, government exit with ROI,  
 blockchain technology pilot, government purchasing rules redefined so that government will support platform pilots.




**VI INFRASTRUCTURE STRATEGY:**  
 Regulation free experiments  
 Standards and certificates,  
 Technology infrastructure (meta-platforms, data standards, safe cloud capacity, preparedness for a potential failure of internet capabilities)

**VII SUPPORT TO CORPORATE DRIVEN ACTIVITIES:**  
 Funding for projects,  
 Government as a customer for pilots,  
 Small assignments for start-ups  
 Test environments

**VIII ACTIVE IMPACT ON THE GLOBAL ENVIRONMENT:**  
 International community building,  
 Government investment in the network  
 Active lobby globally



### Uncertainty dominates development

	Game of Giants	Competing Networks	Technology Struggle
Enablers	No regulation, free trade, technology standards	Blocs, protectionism, ntbs, security concerns, distributed technology (blockchain), metaplatforms	No investments, terrorism, cyber wars, cyber security investments, global financial system collapse
Players	Such as Google (Android), Amazon, IBM, Alibaba	Dedicated networks, local operators, small and medium sized companies	Terrorists, national infrastructure builders (state), banks, operators, technology developers
Typical for dynamics	Centralized coordination	Decentralized networks that are linked together	Isolation, regional development, asymmetric
Structure			
Who will win?	Those that are strong already.	Fast scaling innovative ecosystems that are able to benefit multisided data sharing	Those that are trusted and are able to absorb newest technologies.



### 3. Resilient policy options

If not implemented the development  
■ will slow down,  
■ no development

<p><b>CN</b> <b>II VISION DRIVEN STRATEGY:</b> Government facilitated but cross sectoral stakeholder driven vision, that is defining refocusing of existing policies.</p>	<p><b>CN</b> <b>VI INFRASTRUCTURE STRATEGY:</b> <b>TS</b> Regulation free experiments Standards and certificates, Technology infrastructure (meta-platforms, data standards, safe cloud capacity, preparedness for a potential failure of internet capabilities)</p>
<p><b>GG</b> <b>III KNOWLEDGE DRIVEN STRATEGY:</b> <b>CN</b> <b>TS</b> Generic Platform Competence center to Fast nanodegrees, Focused research grants</p>	<p><b>GG</b> <b>VII SUPPORT TO CORPORATE DRIVEN ACTIVITIES:</b> Funding for projects, Government as a customer for pilots, Small assignments for start-ups Test environments</p>
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### Recommendations

**Exploit existing global networks**

- fast applications
- imitate novel models
- benefit of soft innovations

**Support domestic ecosystems**

- standardization
- infrastructure investments
- government as a pilot

**Build resilient strategies**

- enhance competence building
- Invest in ecosystems for ROI



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**THANK YOU**

