

# *Scenario-based Water Innovation & Research Laboratory*

## *Roadmap*



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2nd Sept. 2015

# VRE Water Management – Integrating Existing Data Sources



Andalusian Mediterranean Basins  
(Hidrosur SAIH/ SAICA)

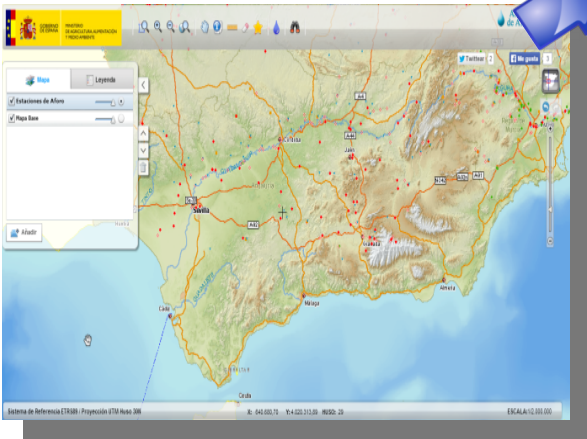


Guadalquivir River  
Basin Auth.  
(SAIH/SAICA)

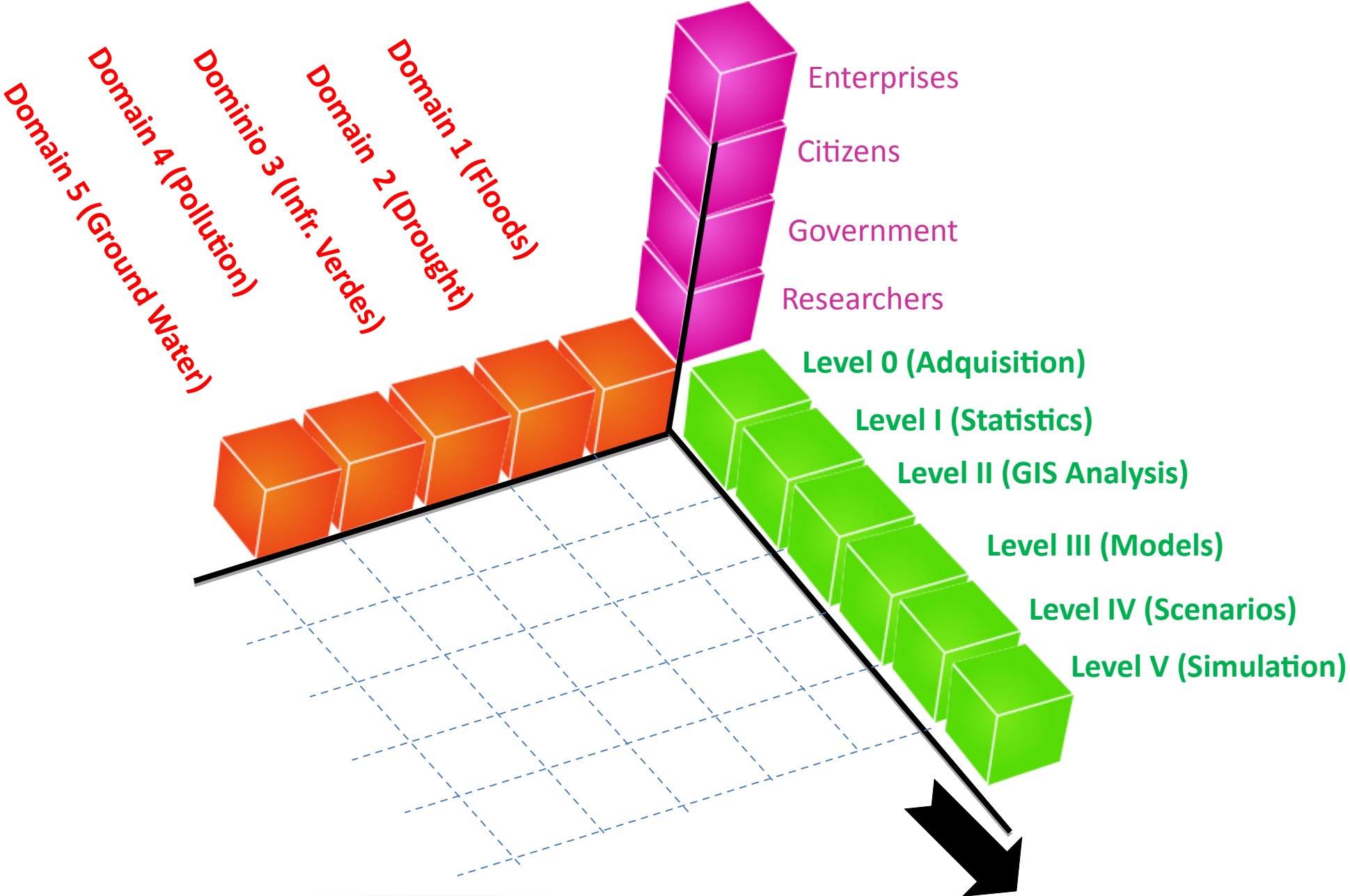


ROEA (Andalusia)

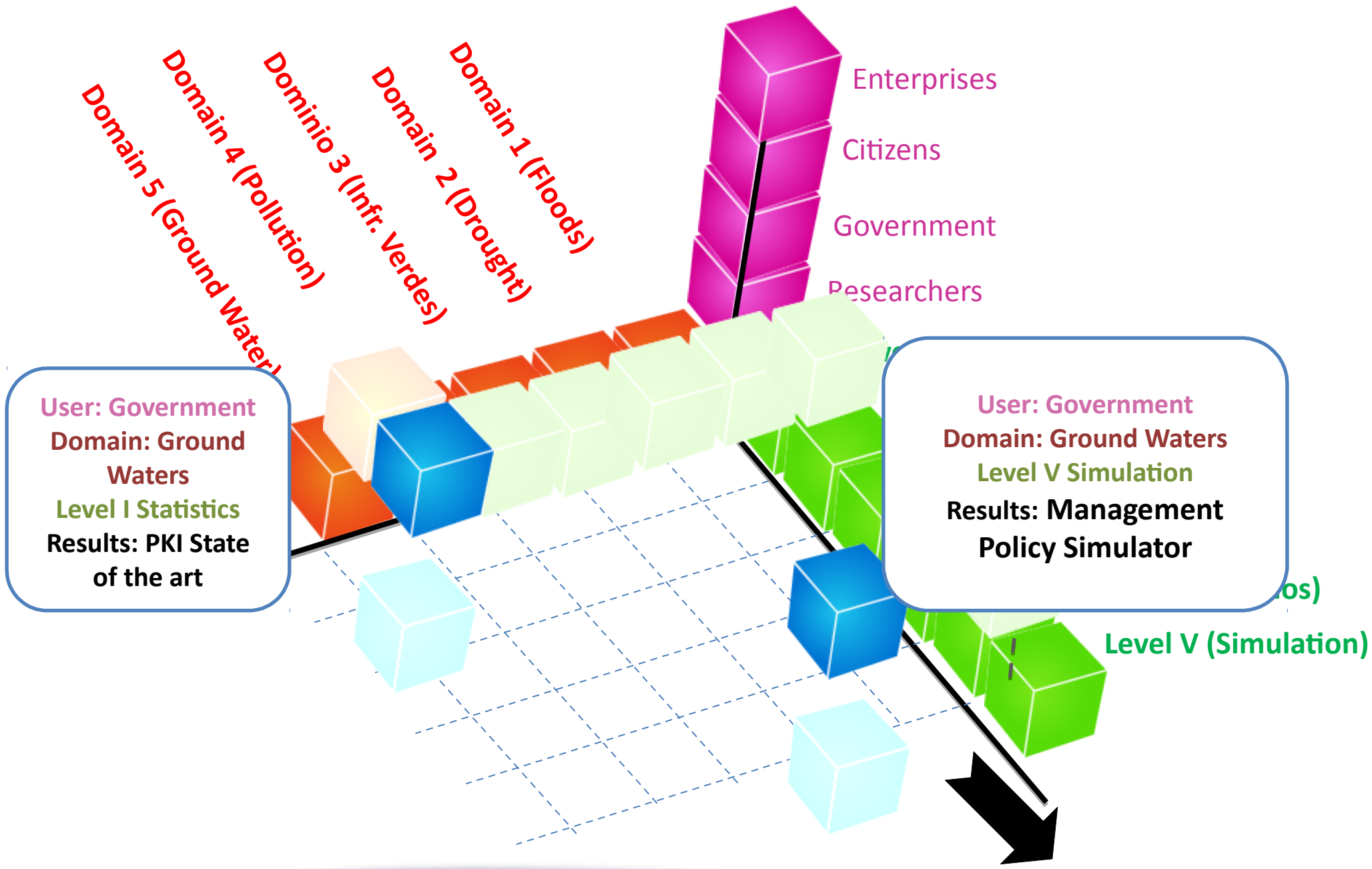
REDIAM Web Services



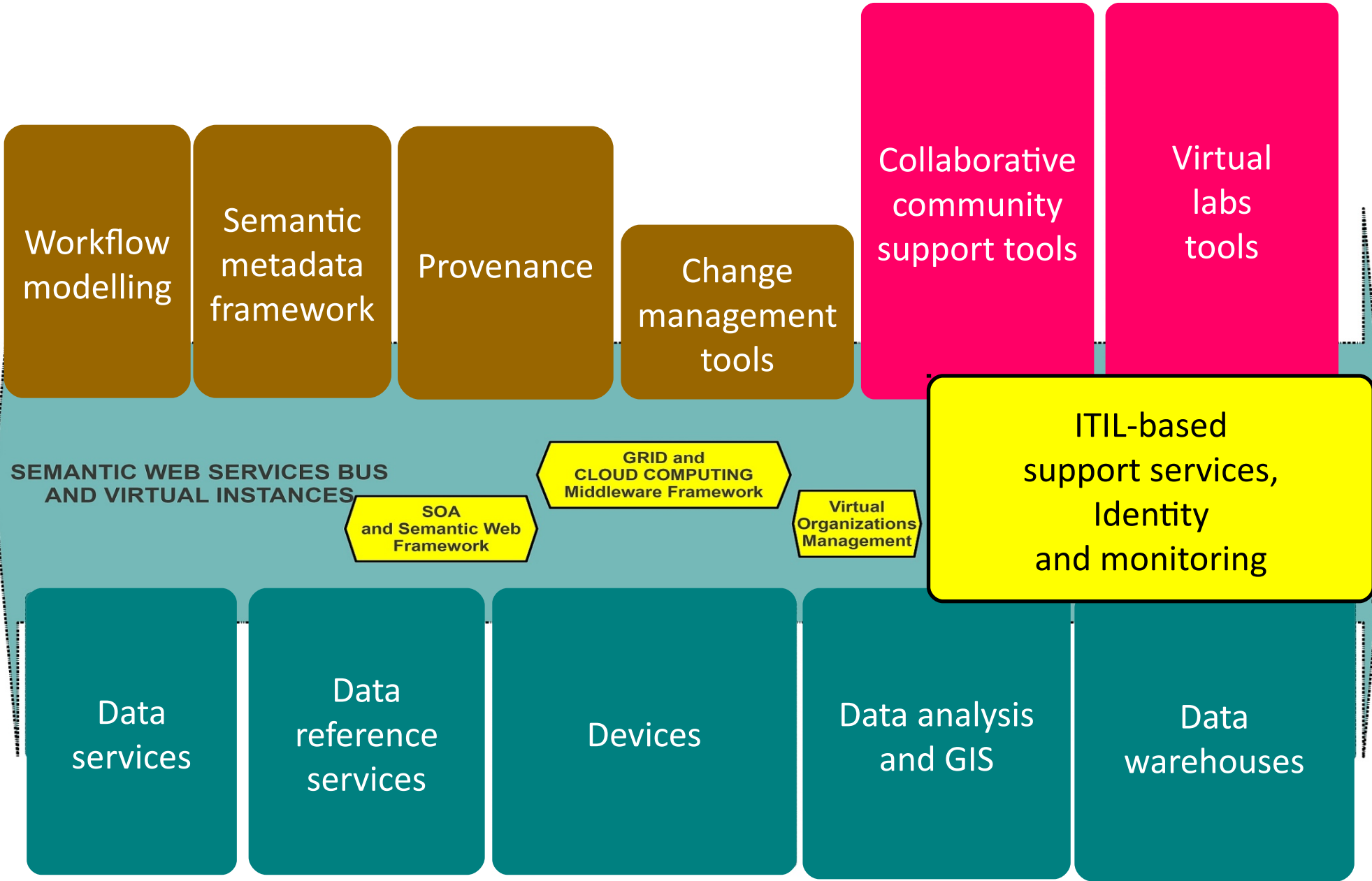
# Knowledge Cubes define the roadmap



# Knowledge Cubes define the roadmap – Two Examples

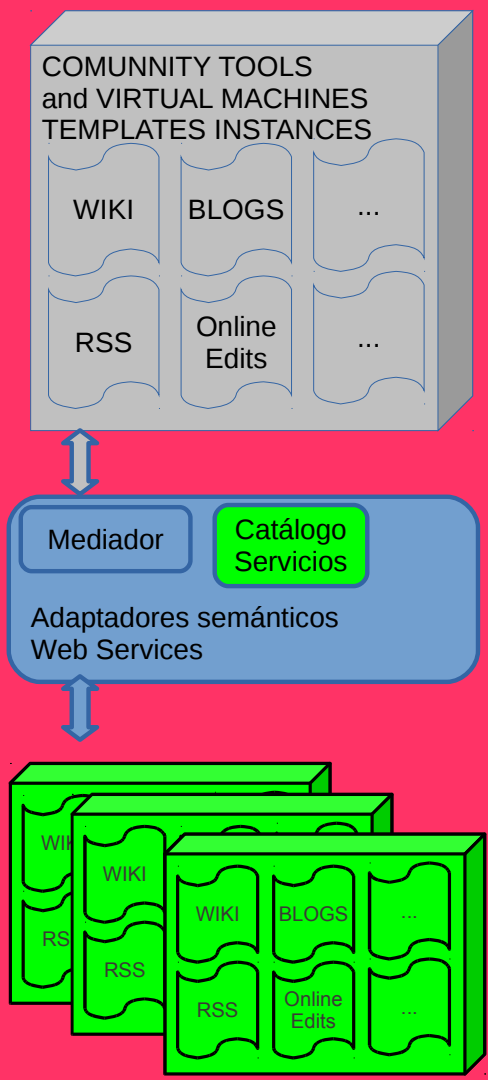


# Architecture



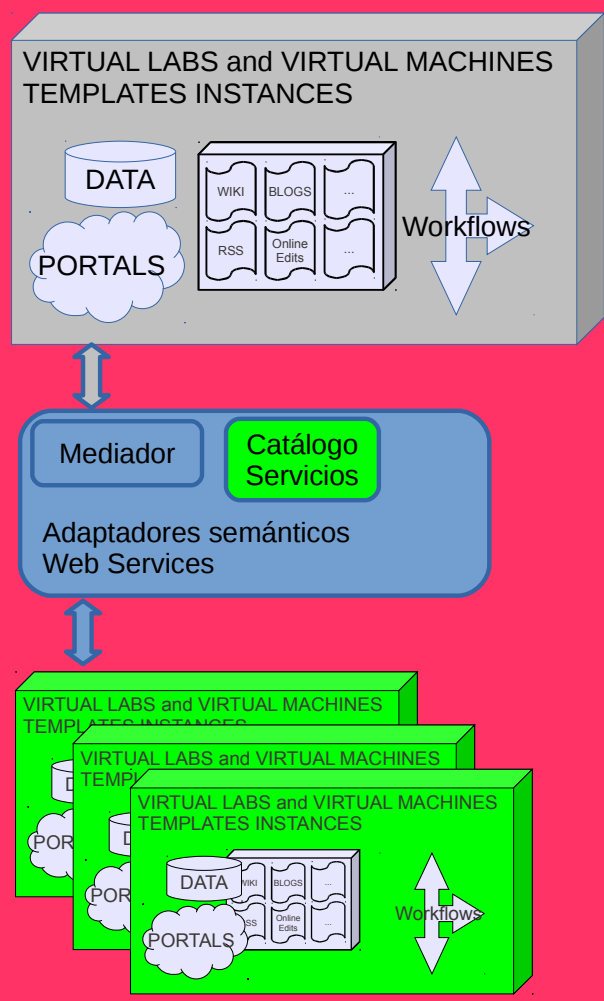
# VRE tools

## COLABORATIVE COMMUNITY SUPPORT TOOLS



VIRTUAL COMMUNITY TOOLS INSTANCES (Permisos)

## VIRTUAL LABS

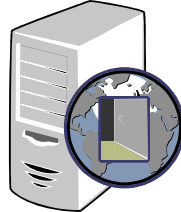


VIRTUAL LABS INSTANCES (Permisos)

# Swirl e-Infrastructure



open source



Web

Web Services



PostgreSQL



PostGIS



GeoServer



talend



SAIH



SAICA



ROEA

...



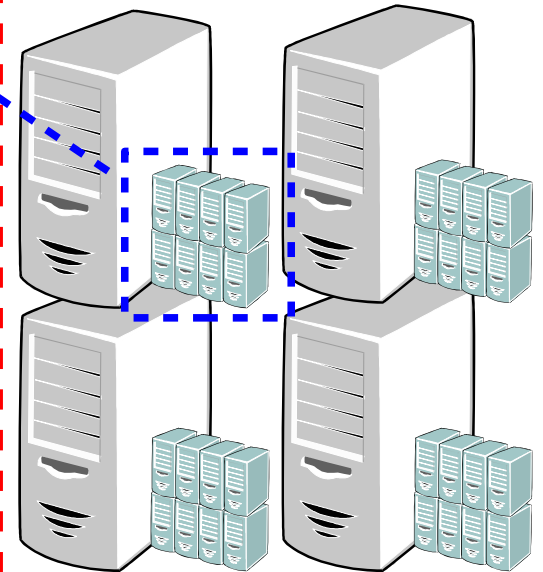
OTROS



REDIAM



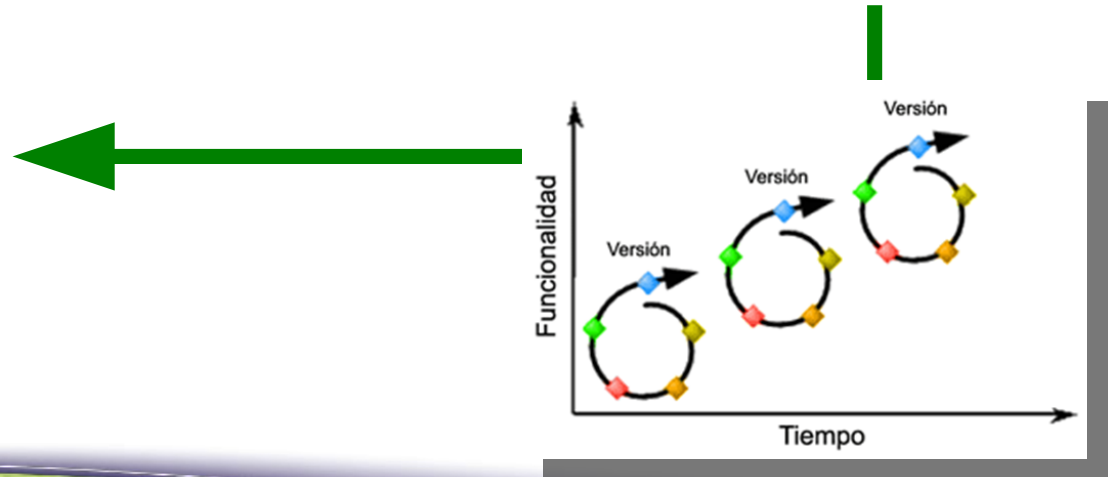
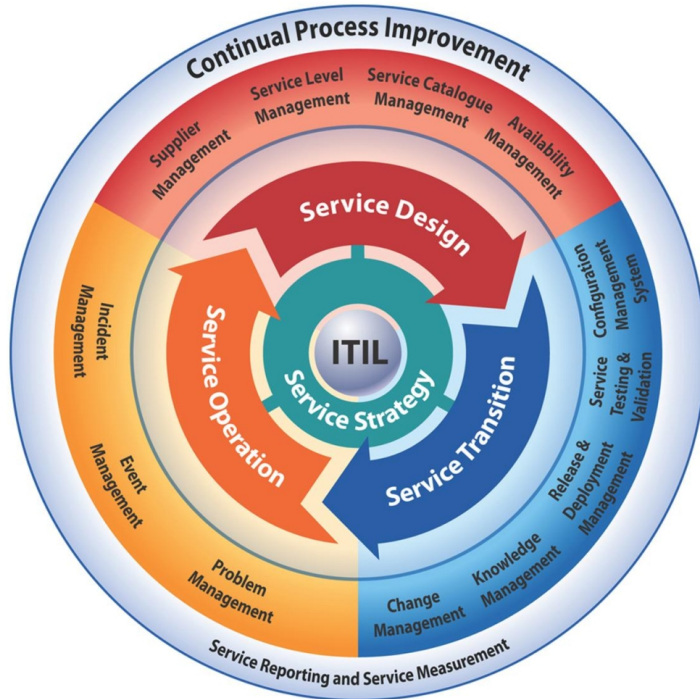
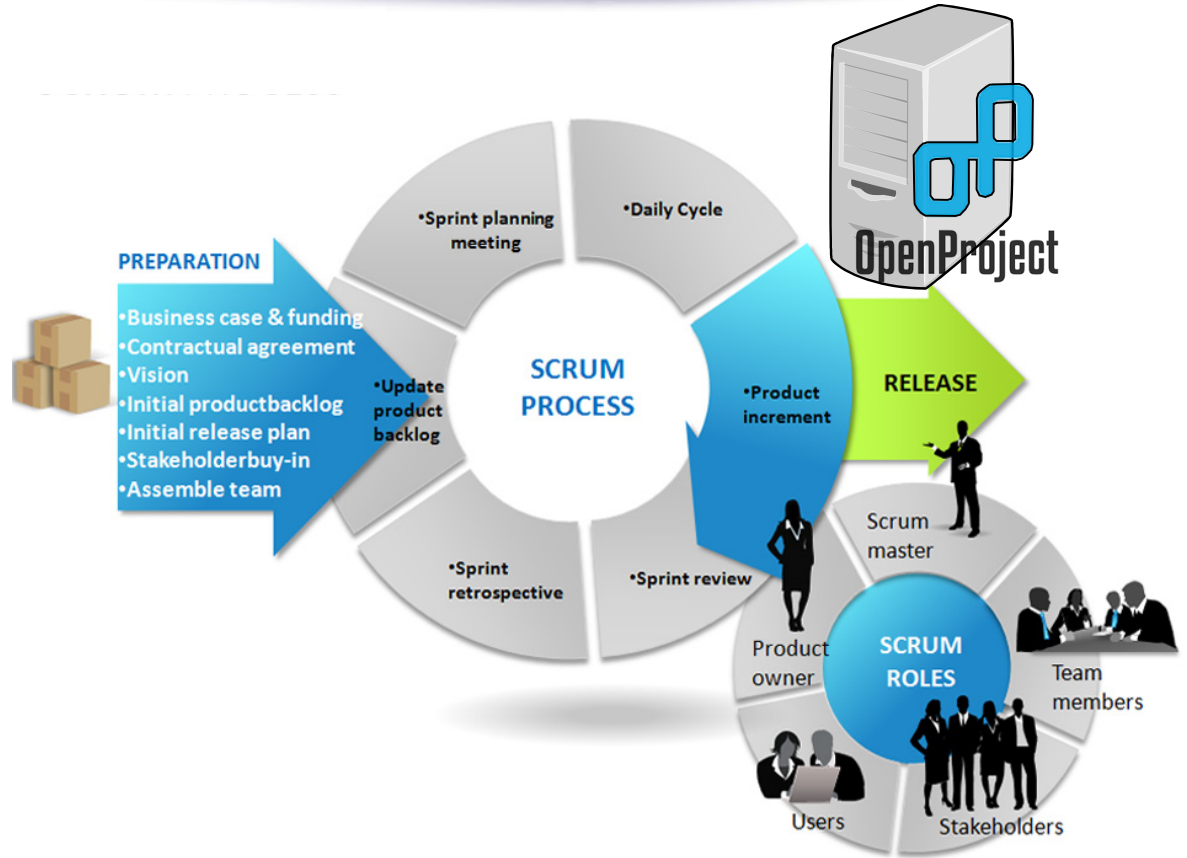
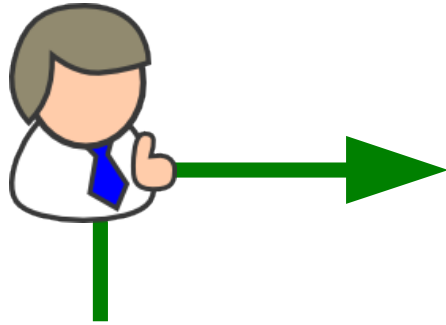
## openstack



- Virtualization
- Escalability
- Containers (Docker)

# DevOps - Agility

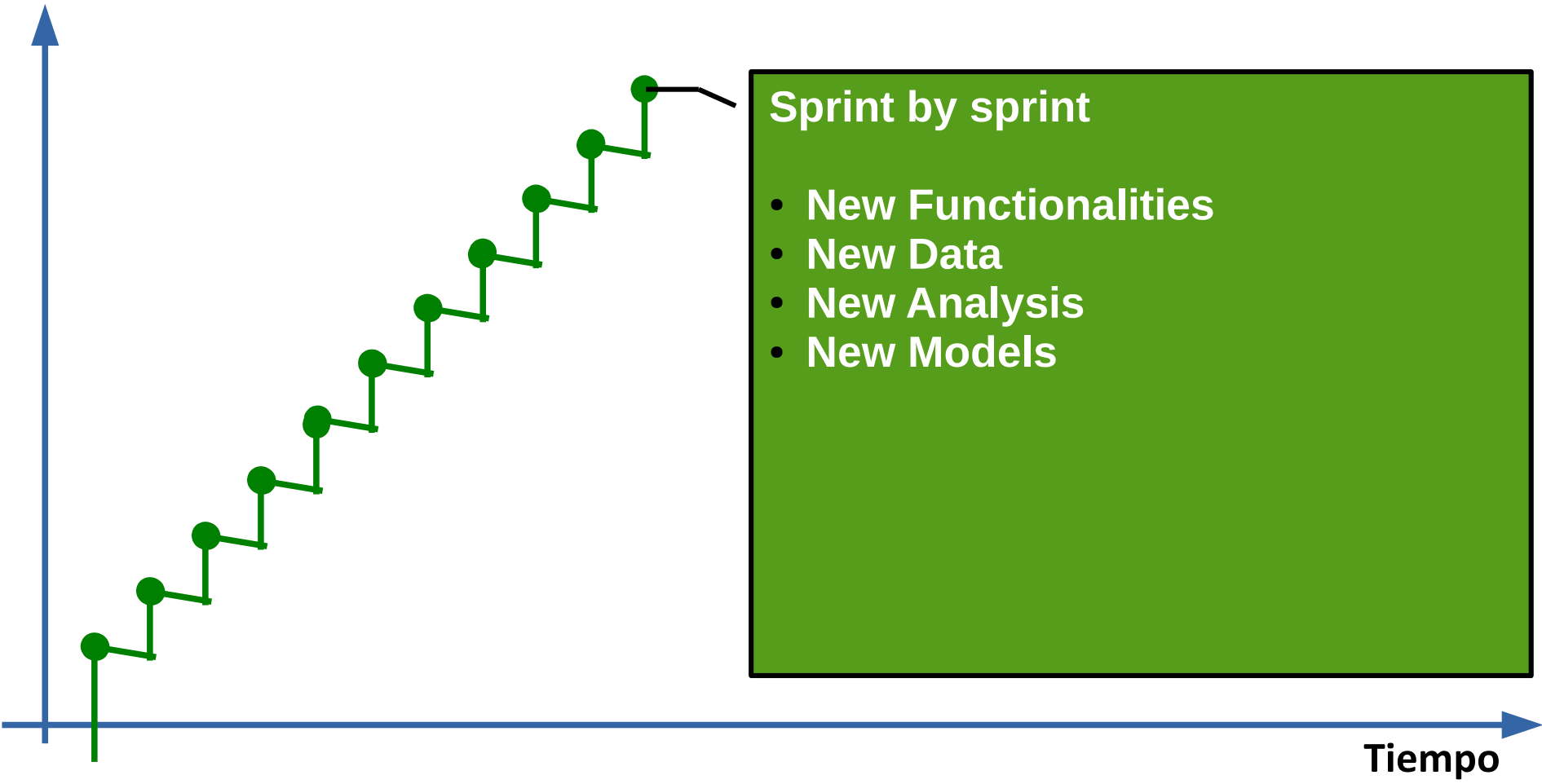
- Use
- New requirements



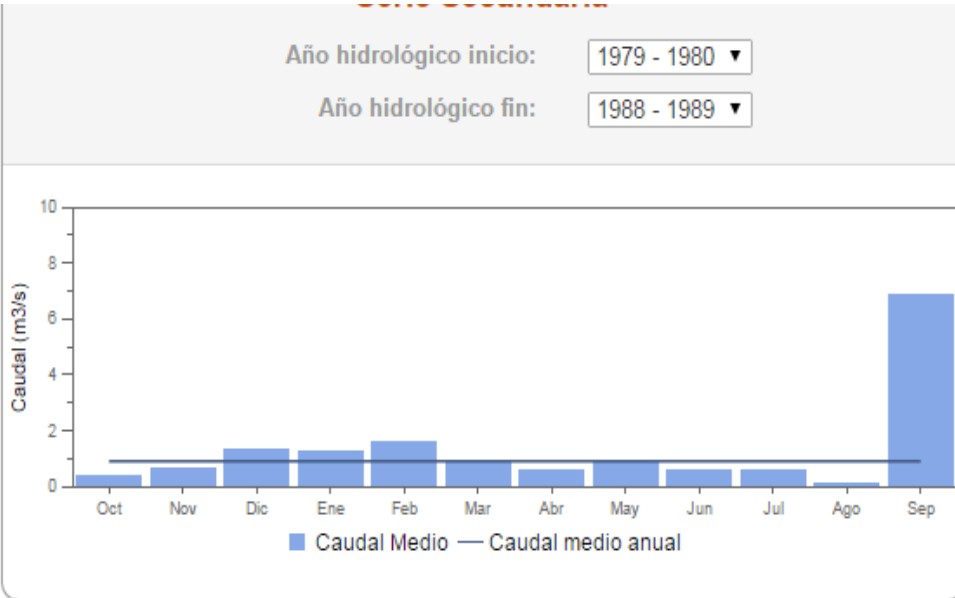
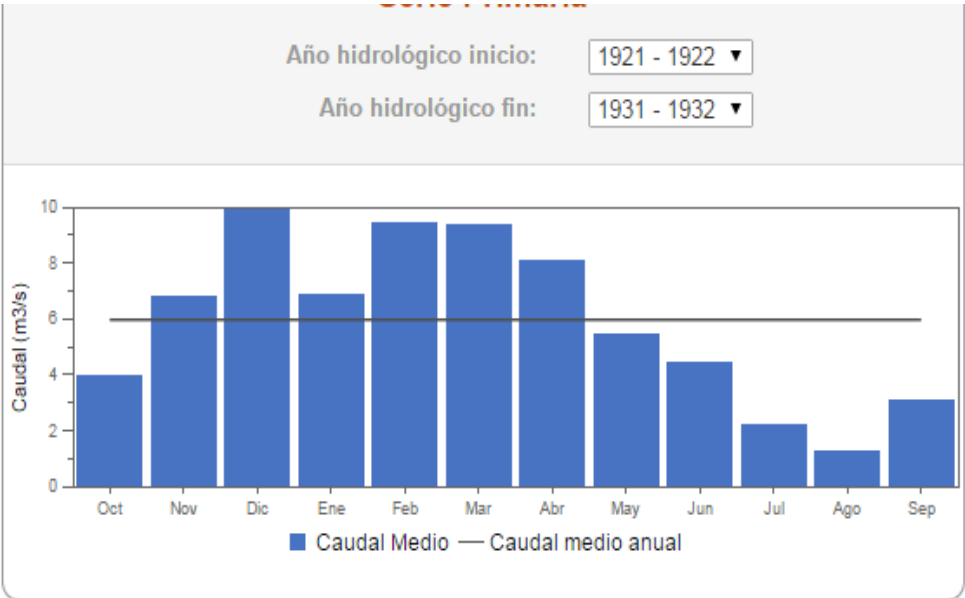


# Agile evolution short iterations

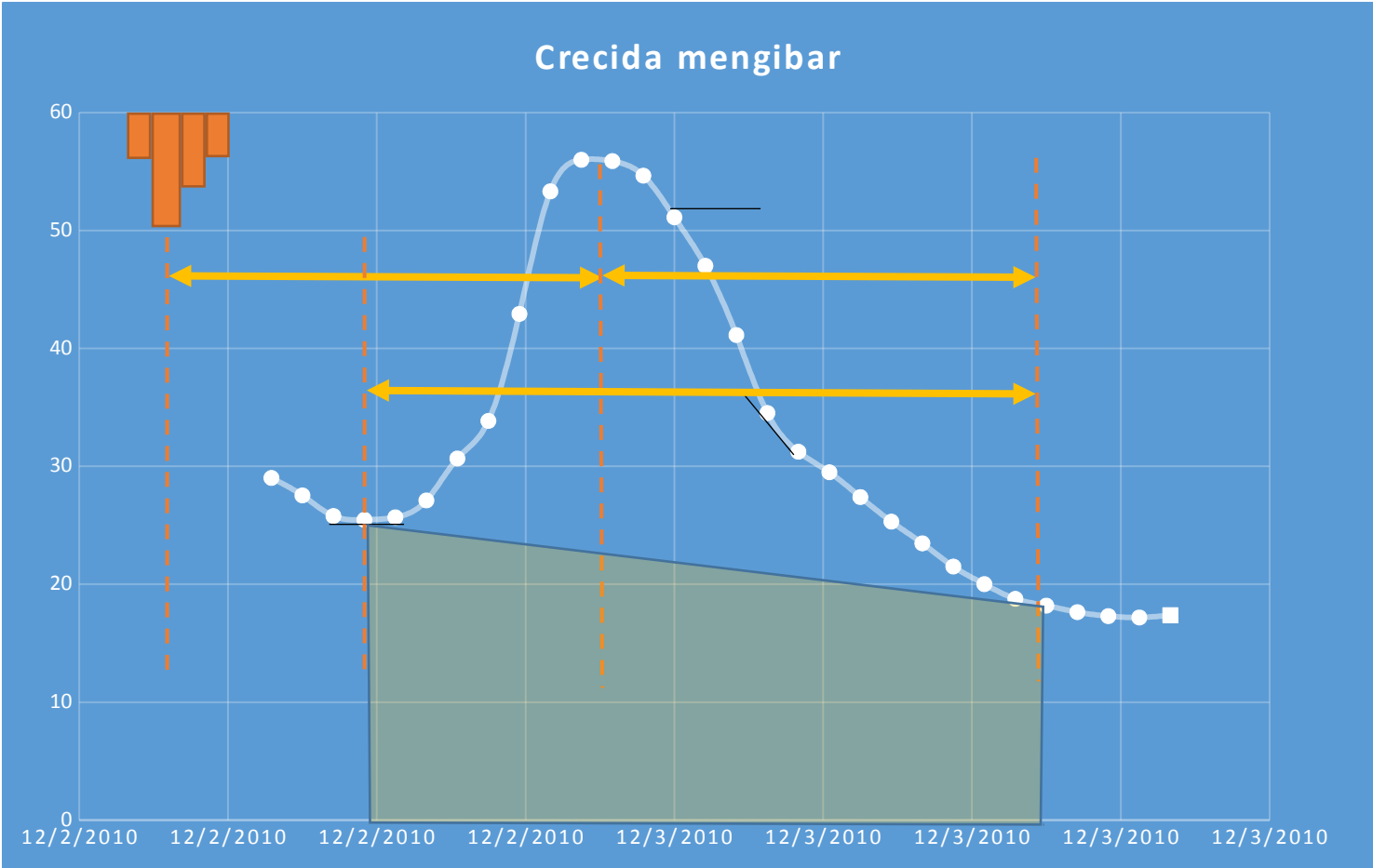
Added Value



# Functionalities: Detecting Anomalies

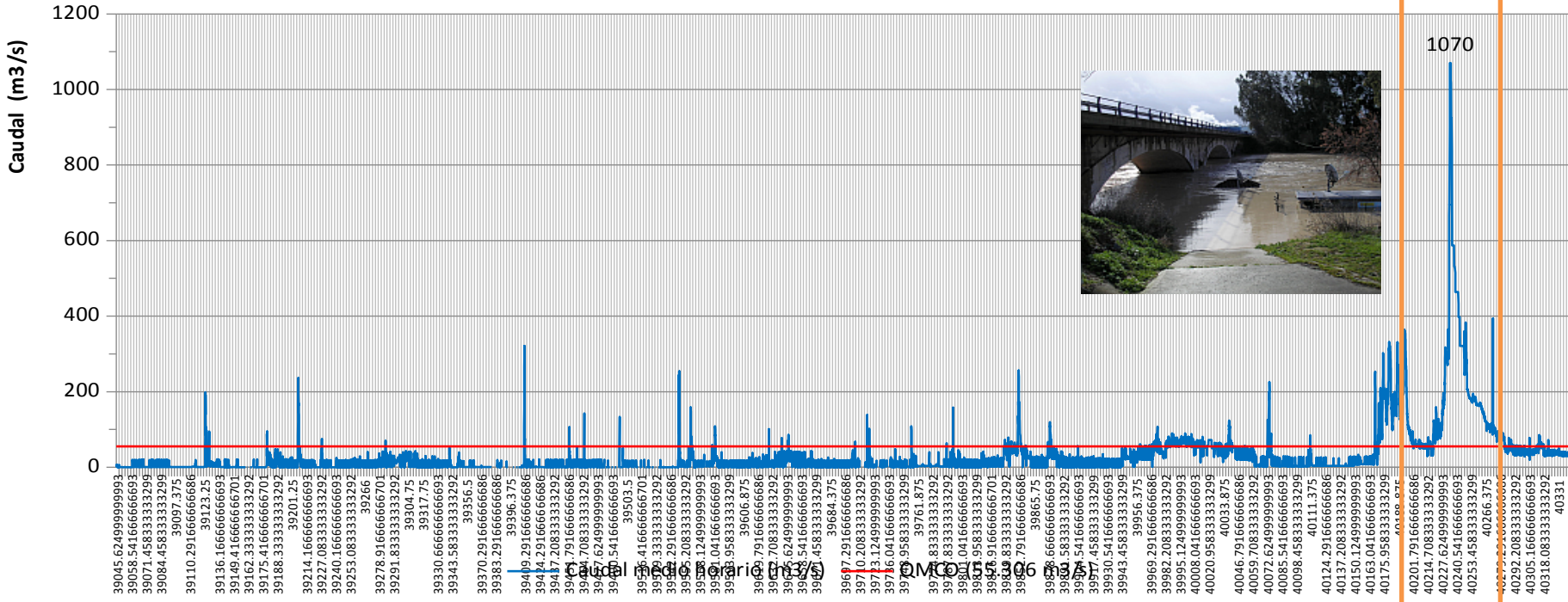


# Math Model for Discharge Assessment

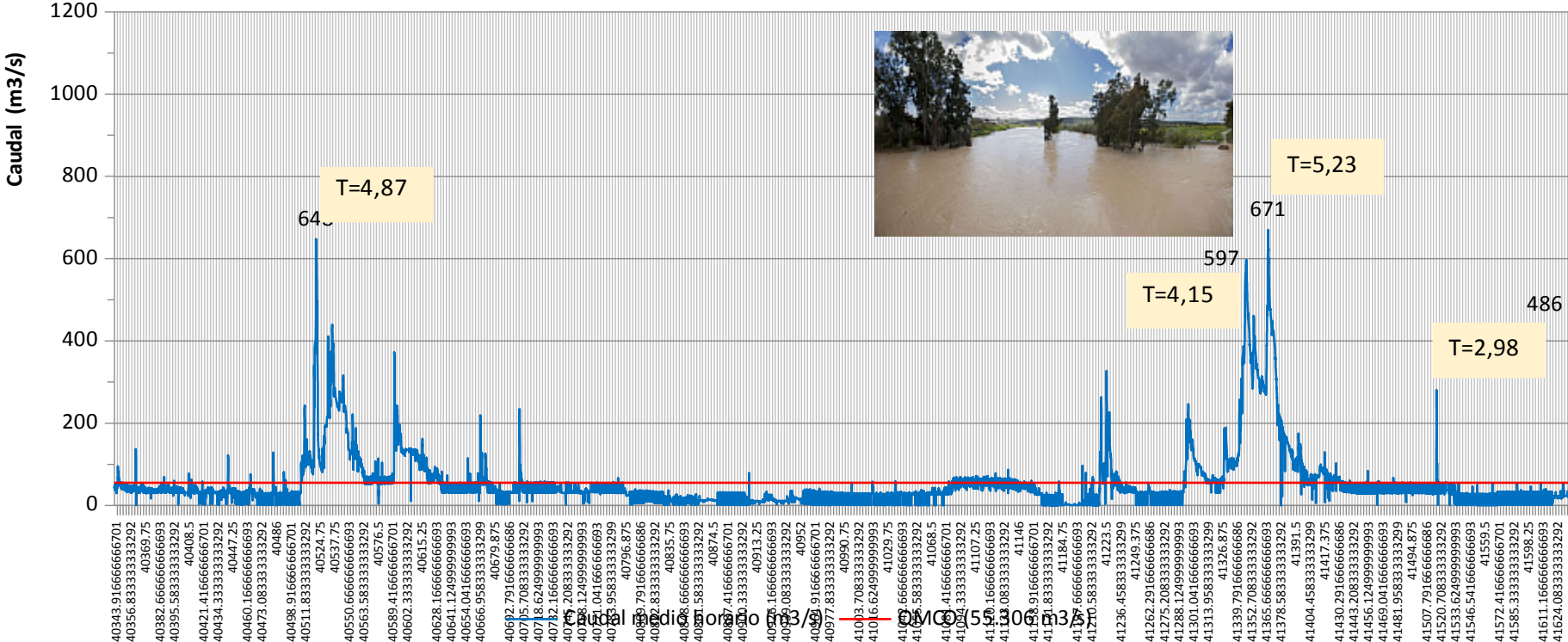


# Flood Tagging

Caudal medio horario del río Guadalquivir en Mengíbar desde el 01/10/1999 al 28/04/2015  
Estación GUADALQUIVIR - MENGÍBAR (JA) - SAIH A08 Gráfico 3 de 5



# Flood Tagging – Return Periods



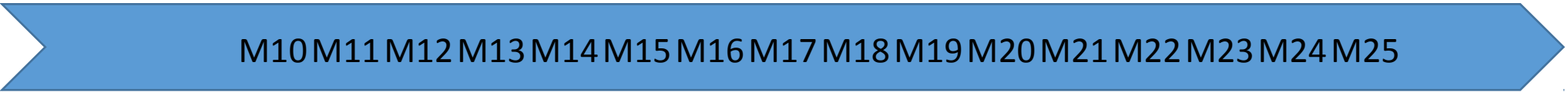
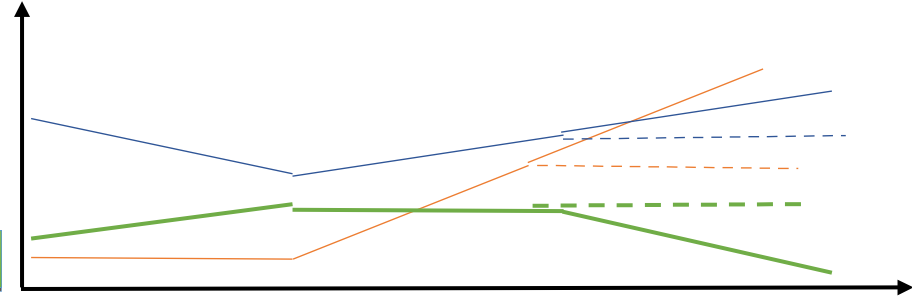
# Functionalities: Simulation of Policies

**Decision**

Water Reuse  
Ground Water Recharge

**Parameters**

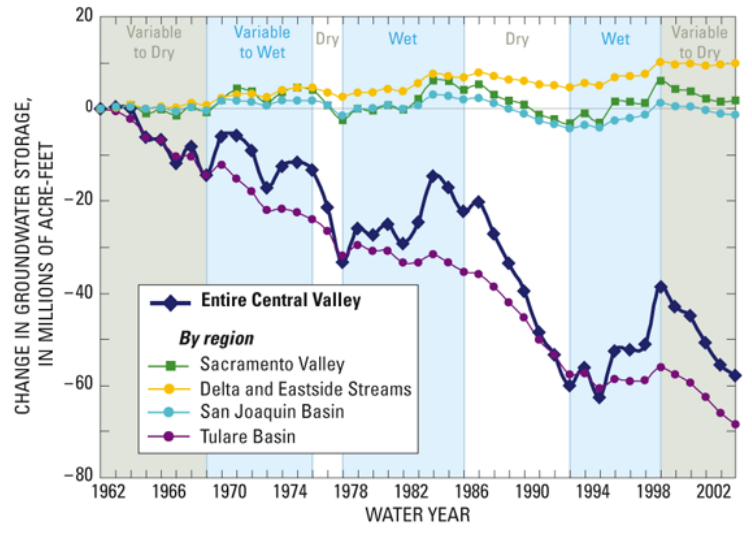
Garantía  
Measures' Cost  
Environment



**INDICADORES**

Embalses 50%  
Acuíferos: 40%  
IESP: Anormalmente seco  
Demandas: Estables

OK



## *Scenario-based Water Innovation & Research Laboratory*

*Thanks !!!*

swirl

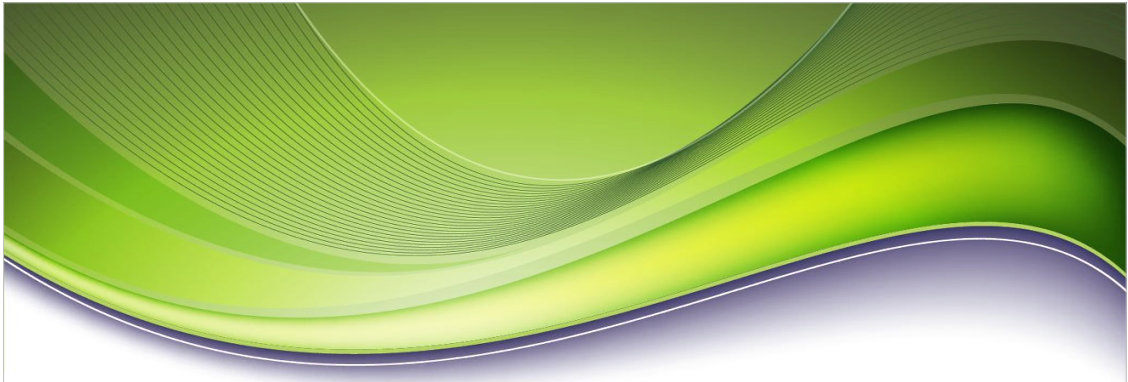


**CITIC**  
Centro Andaluz de Innovación y  
Tecnologías de la Información  
y las Comunicaciones



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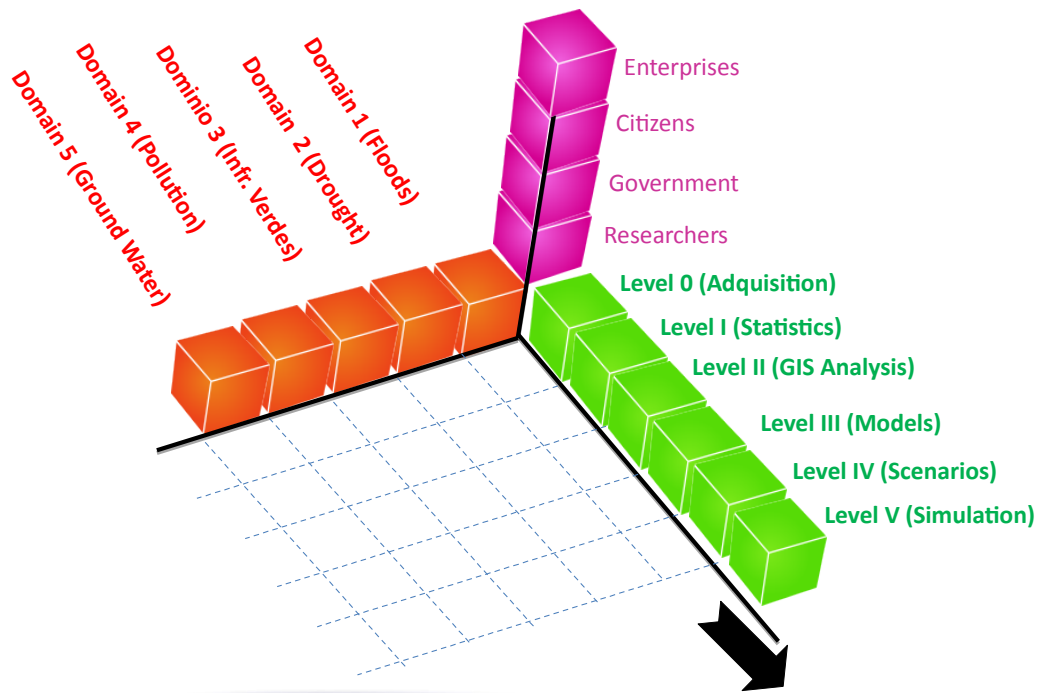
**2nd Sept. 2015**



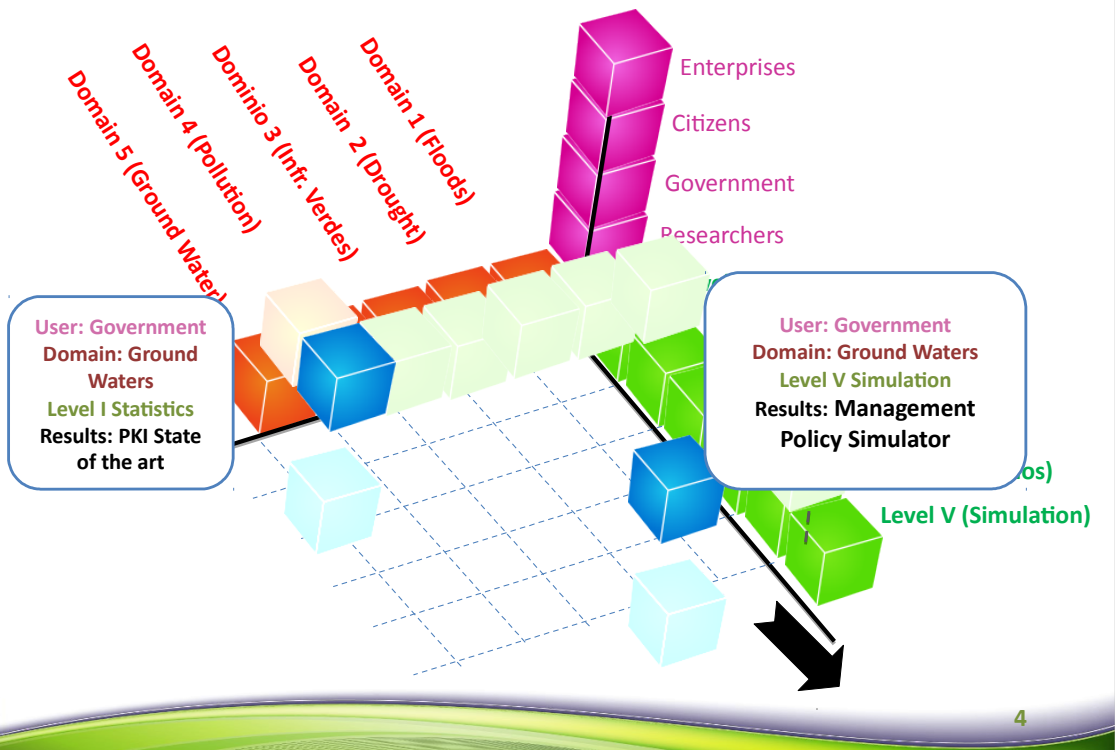
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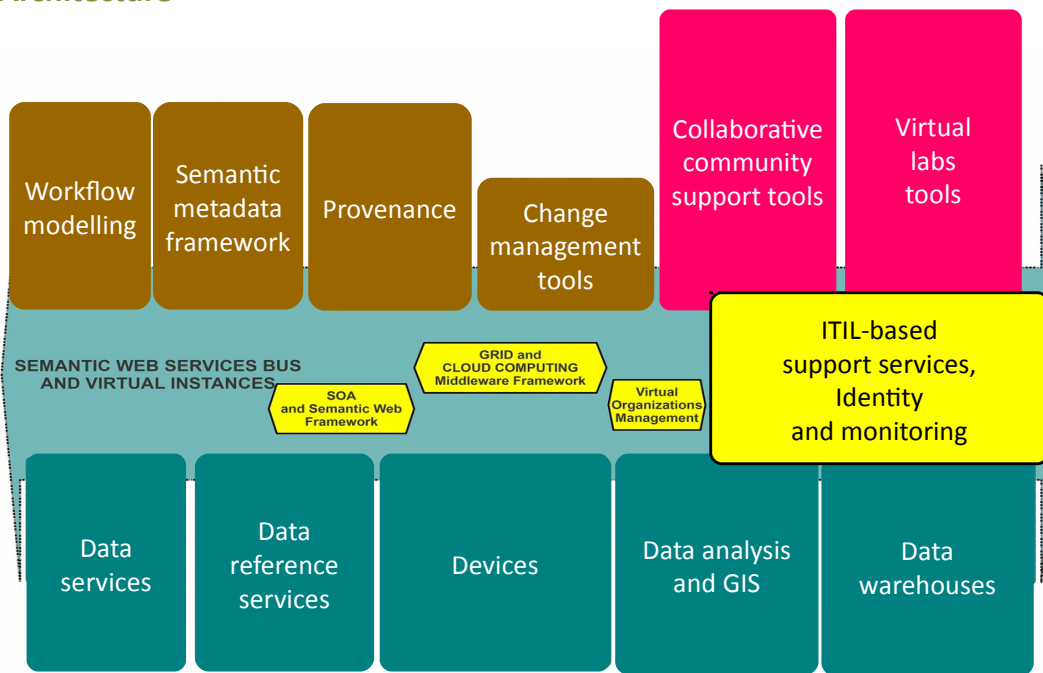
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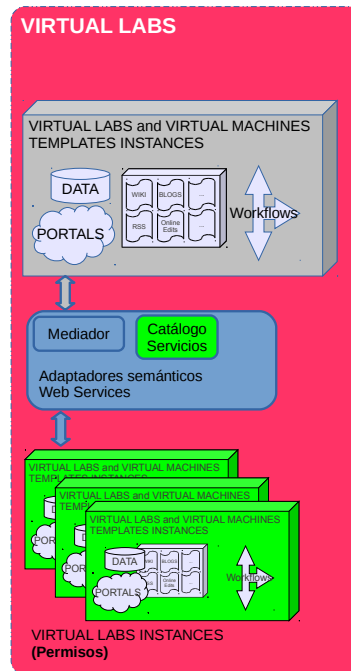
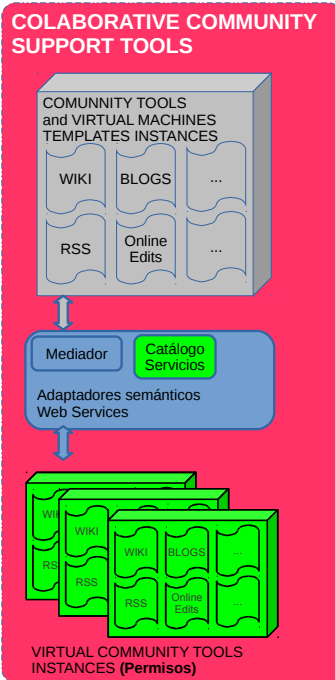
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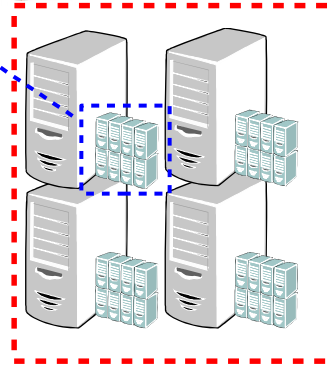
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## VRE tools



# Swirl e-Infrastructure

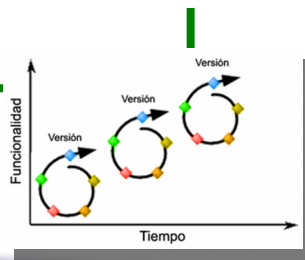
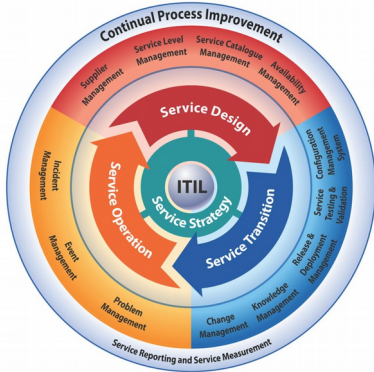
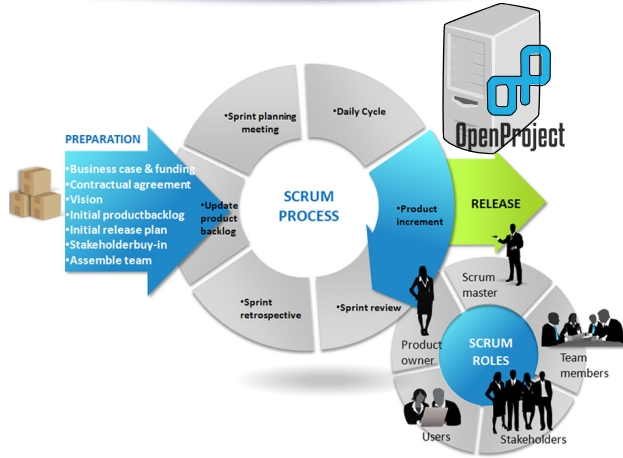
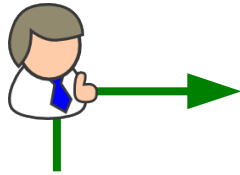


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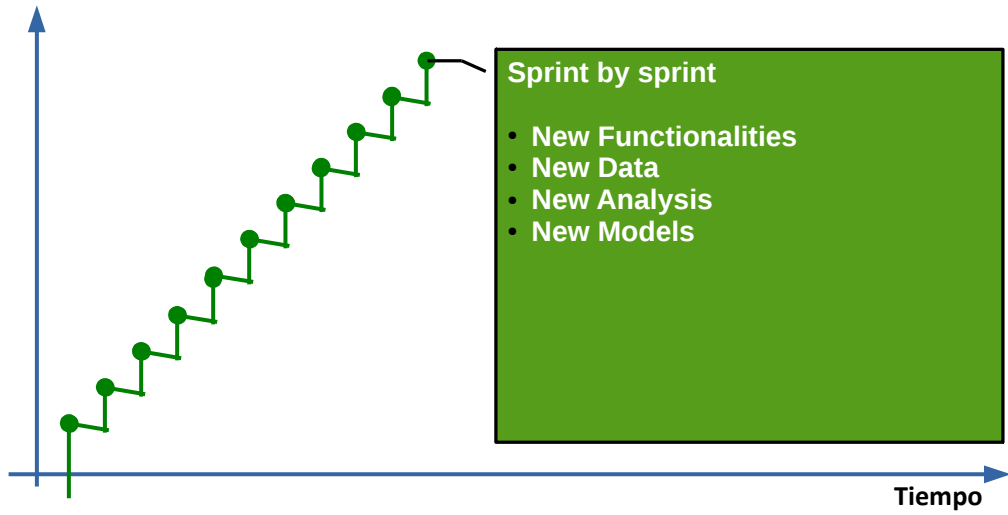
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- New requirements



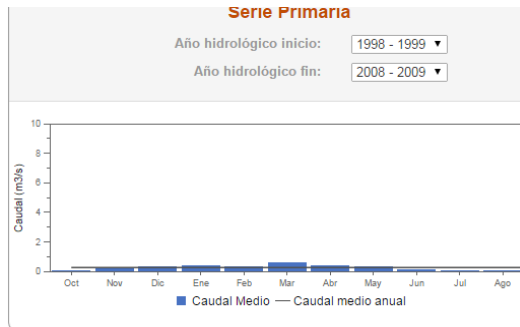
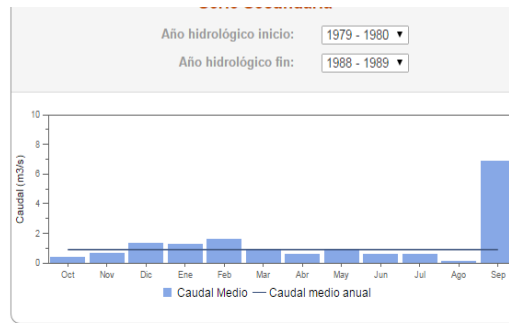
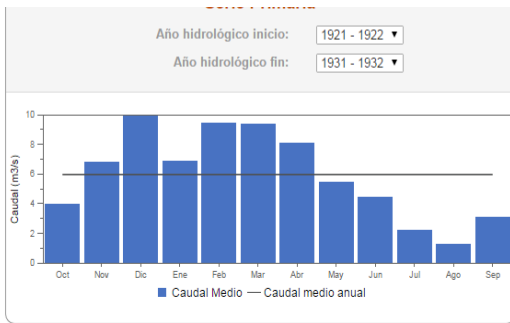
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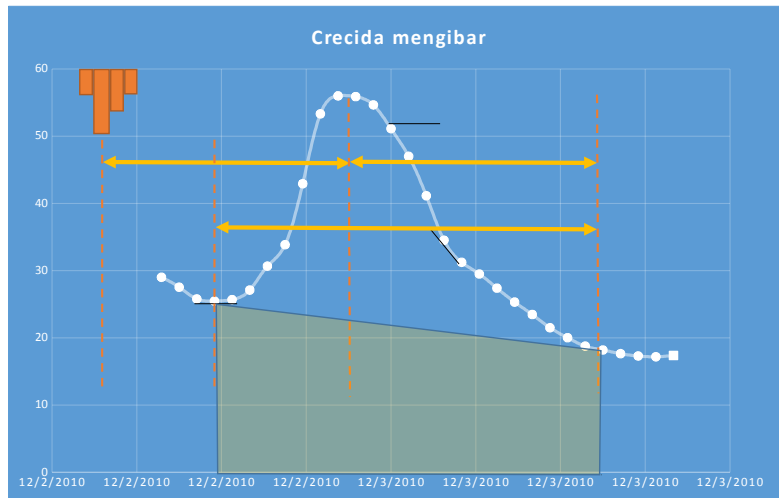




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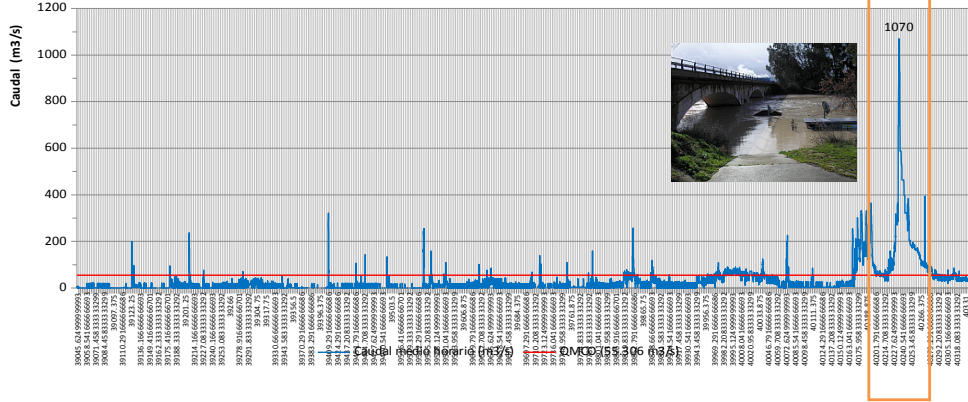


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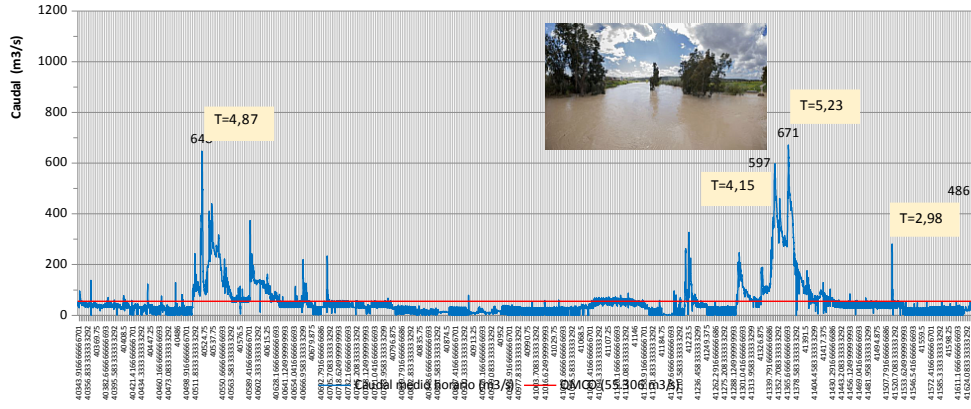


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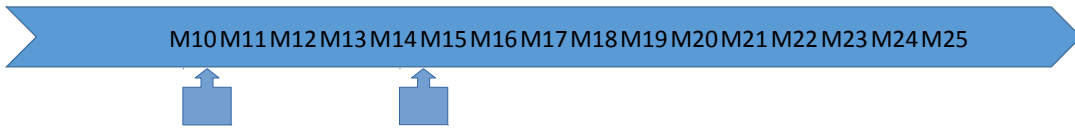
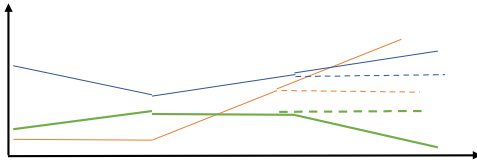
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# Functionalities: Simulation of Policies

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 Ground Water Recharge

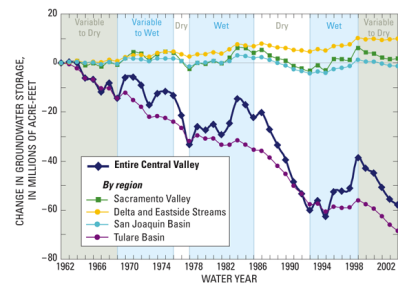
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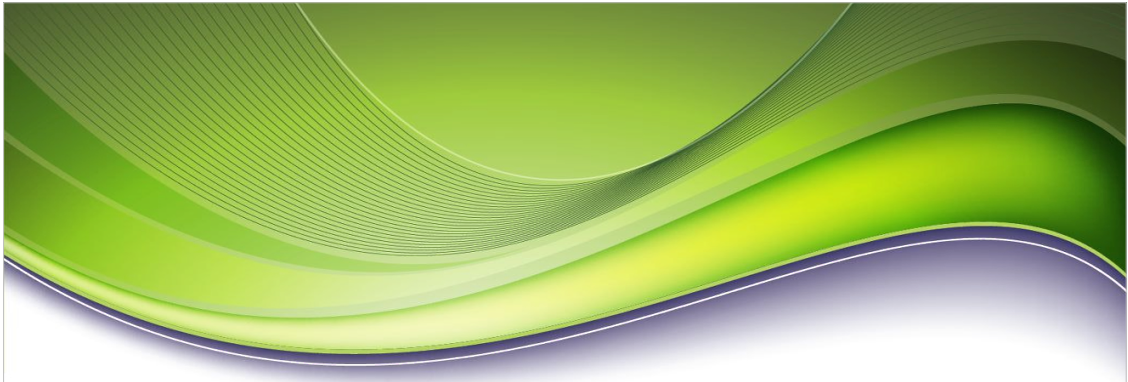


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