FINESCE API

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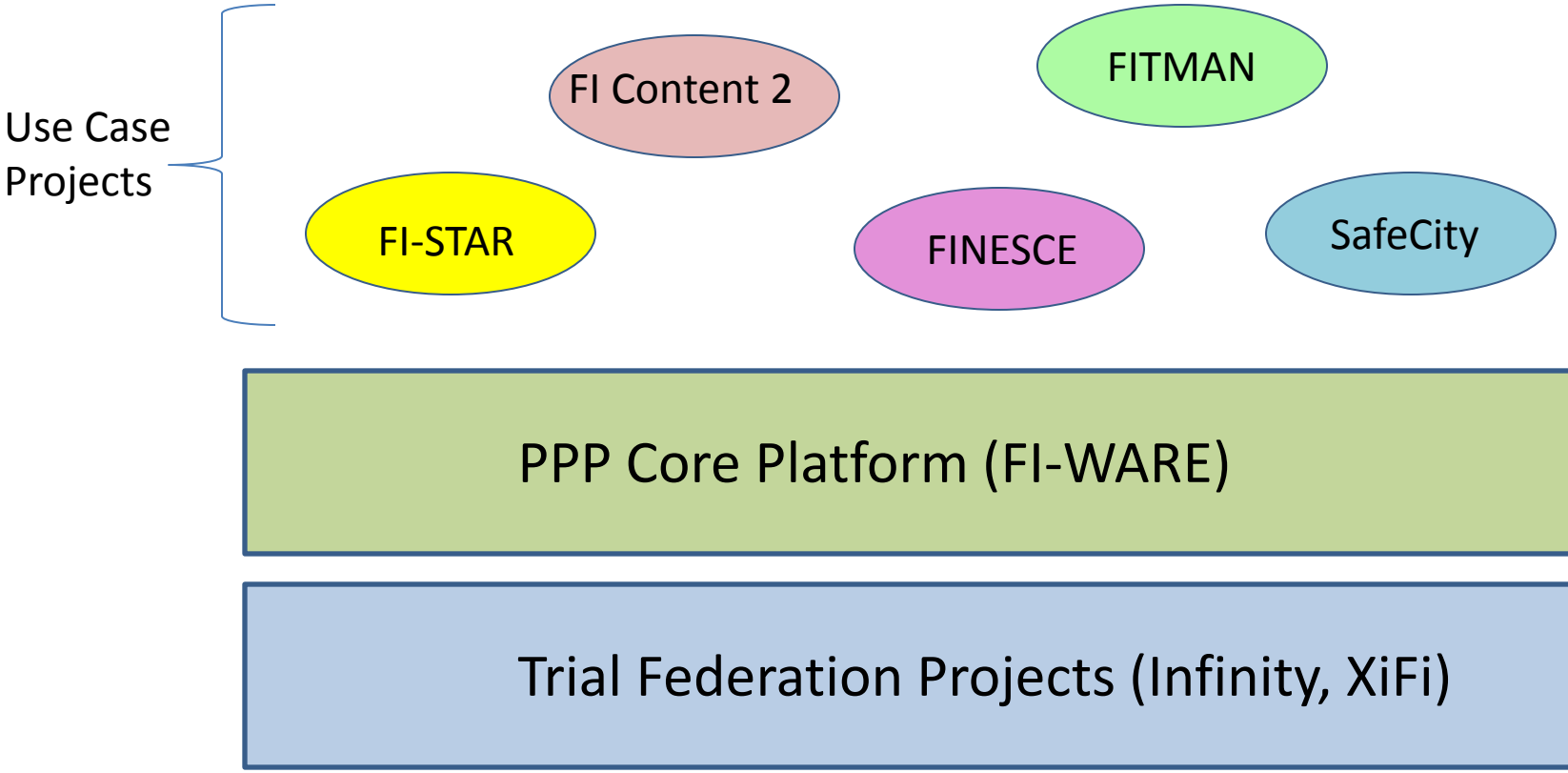
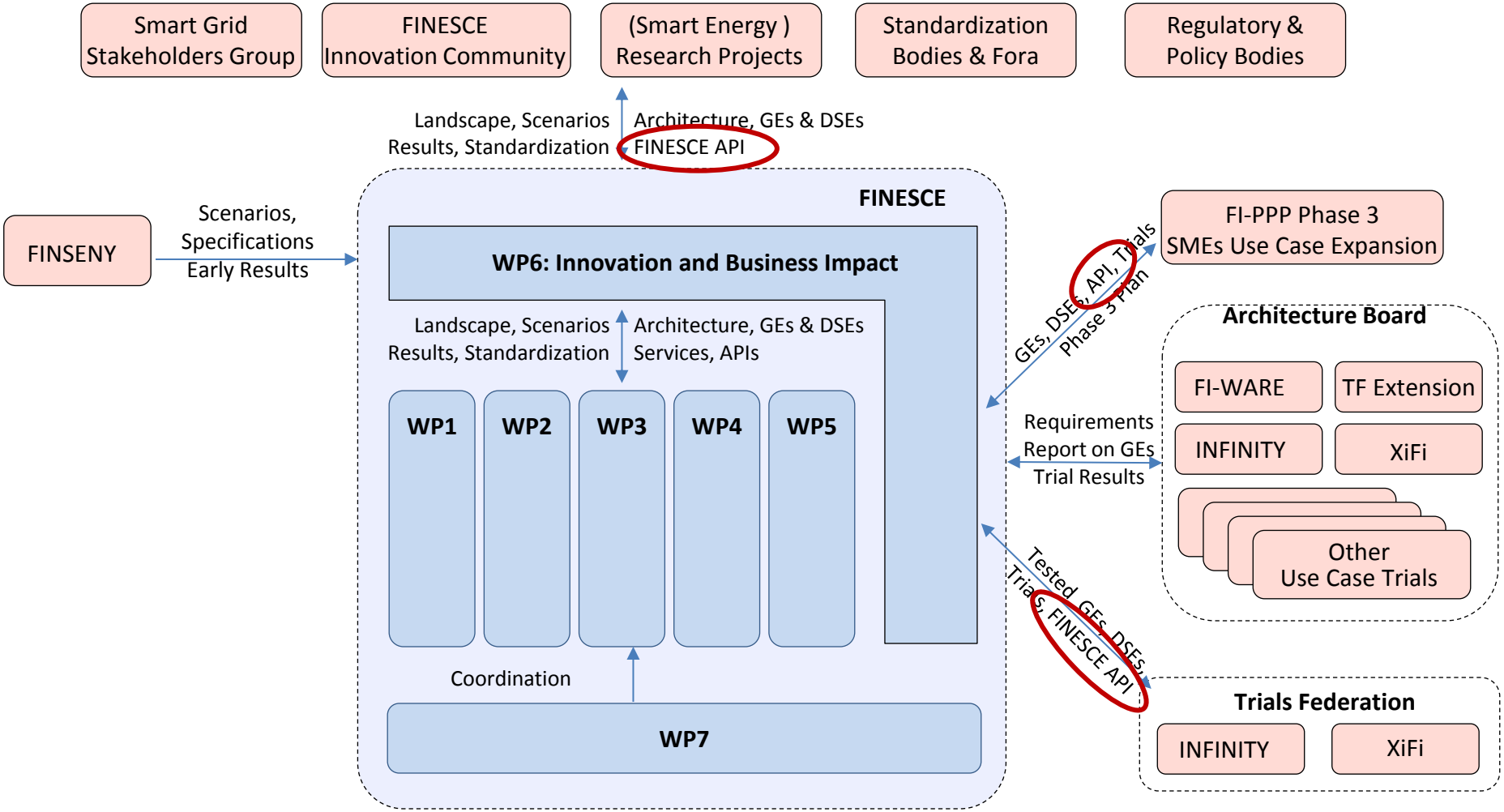
Terni, Italy

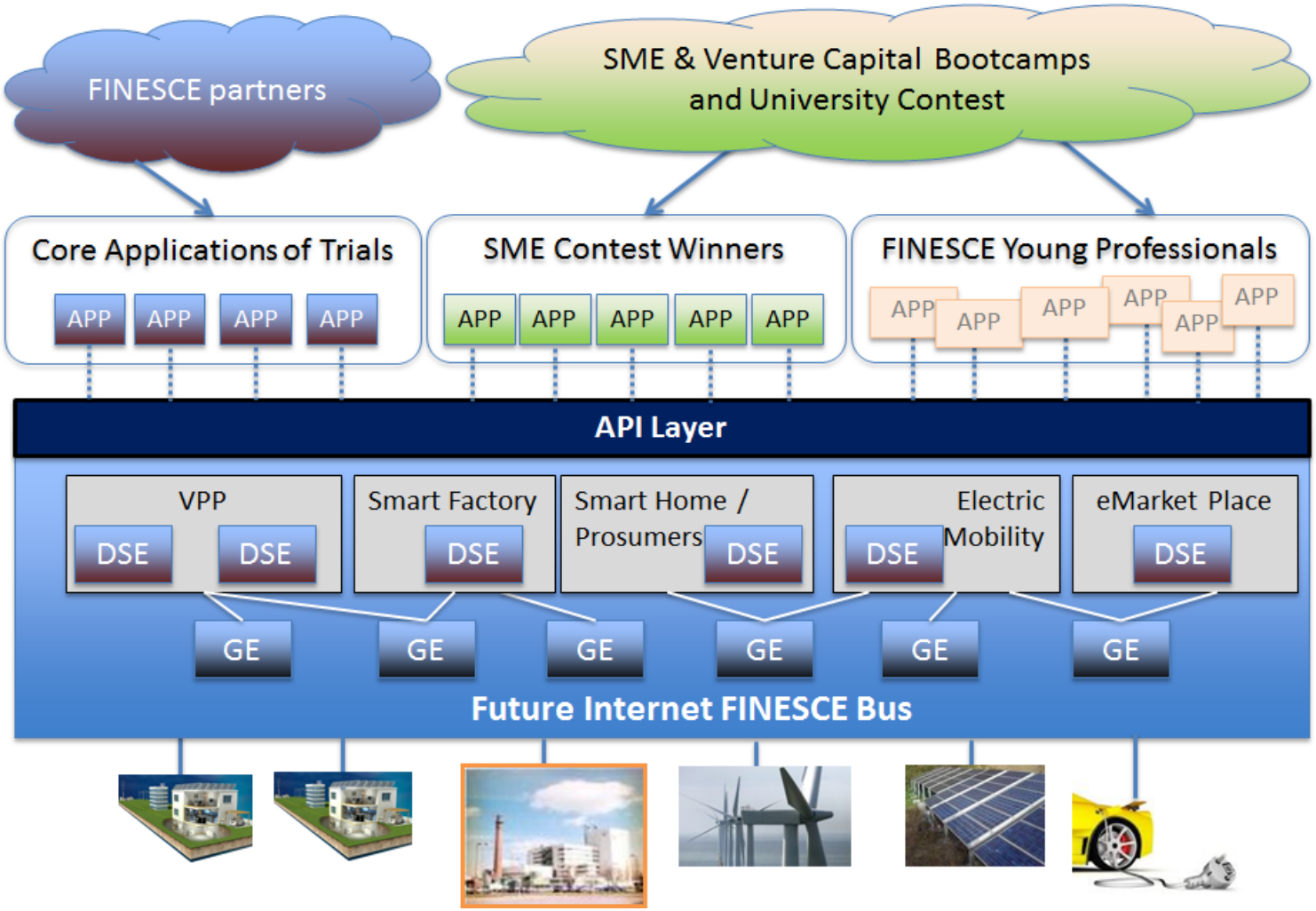
FI PPP Ecosystem



FINESCE Environment



FINESCE Logical Architecture



FINESCE API Objective

FINESCE API allows

- project participants
- research (PPP) projects
- Students during talent competitions
- SMEs

to

- get remote access to the project trials and infrastructures
- monitor experiments
- Create & validate their 3rd party FI energy applications

FINESCE API aims to provide risk-free recipes for using FIWARE GEs and FINESCE DSEs in a structured, coherent and business-oriented manner

FINESCE API Roadmap

- FINESCE API Layer is a collection of formal APIs from the FINESCE trials

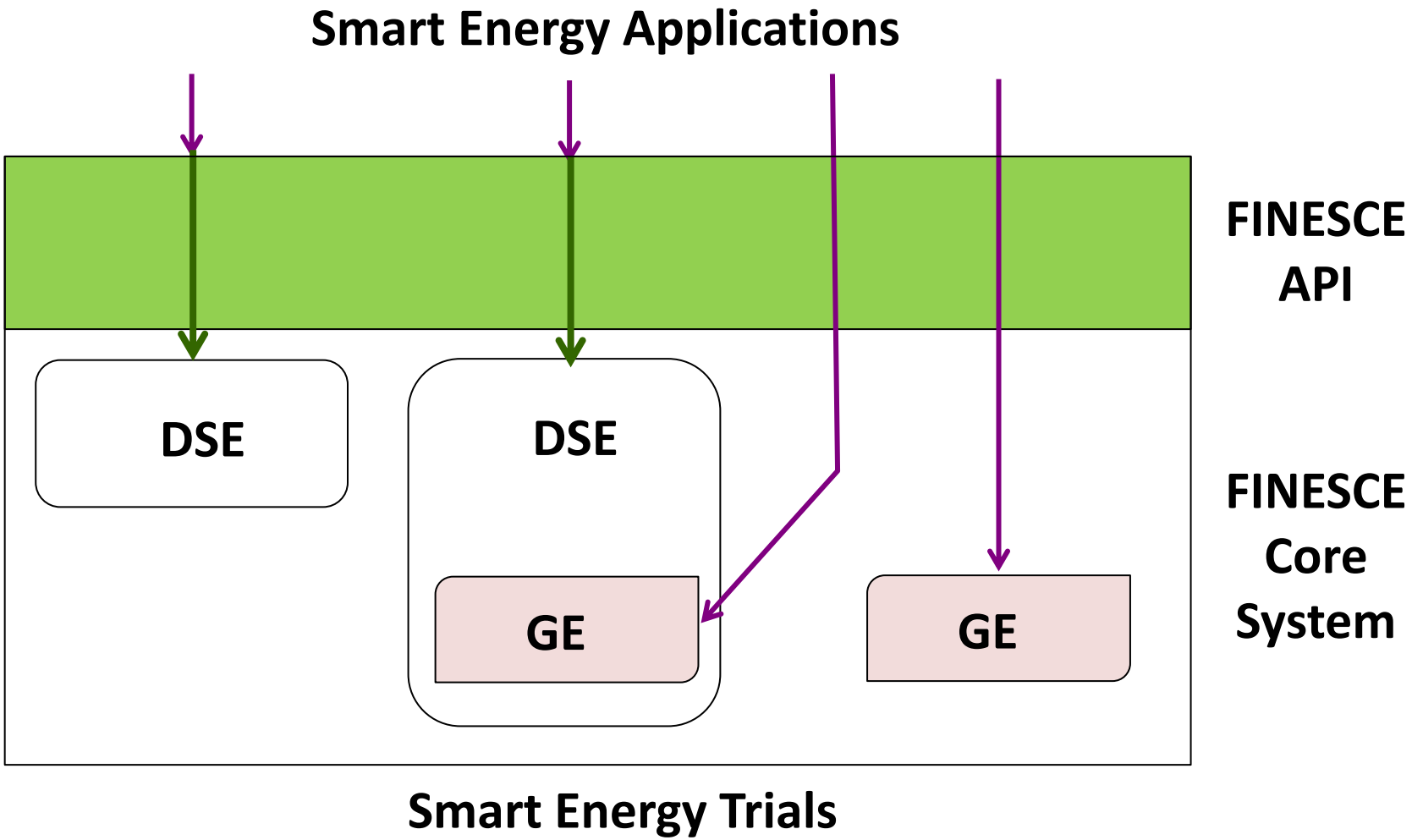
Steps to realize

- Each WP/trial has defined the required functionality
- Cross trials unification/homogenization (Jul. 2013)
- FINESCE API specification v1.0 (Aug. 2013)
- FINESCE API presentation in SGSG, XiFi, FI-WARE
- FINESCE API specification v1.1(Oct. 2013)
- FINESCE API implementation per WP/trial (April 2014)
- Dissemination & promotion

High Level Approach

- Rely on HTTP/RESTful services (wherever possible)
- Expose FINESCE trials results (both on-line & historical data)
- Expose FINESCE DSE interfaces
- Expose Customized access to GEs utilised by FINESCE
- Allow normal access to GEs utilised by FINESCE

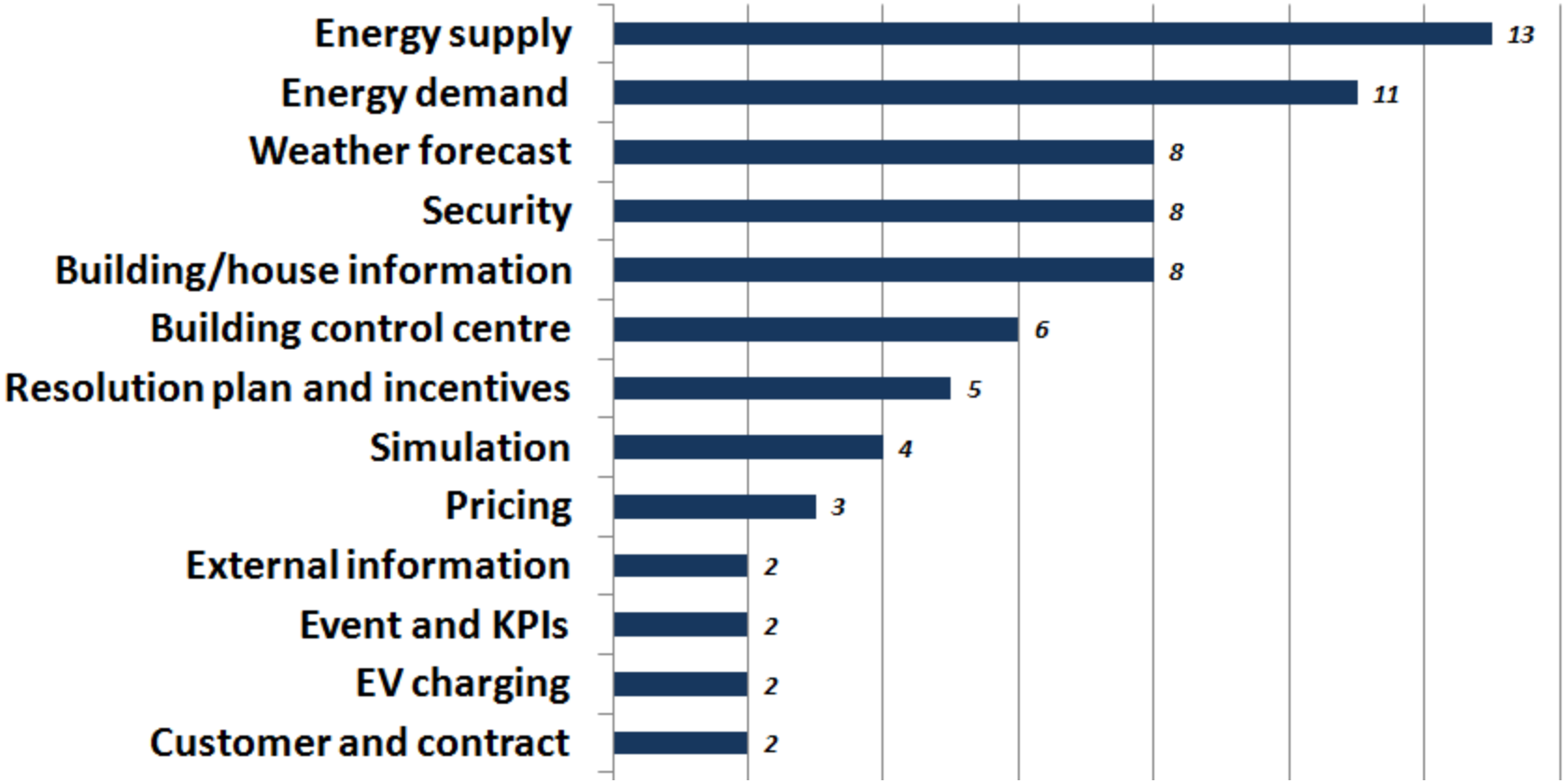
High Level View



3 cases for the FINESCE API

- **Case 1**: GE without any modifications
  - FINESCE API = GE RESTful API
- **Case 2**: GE with some modifications
  - FINESCE API = GE RESTful API + any new RESTful API implemented
- **Case 3**: Domain Specific Enabler
  - FINESCE API = RESTful API of the DSE

FINESCE API Services per Category



FINESCE API Services per Trial

	Smart Buildings	Smart Homes	VPP/ Smart Factory	Electronic Marketplace	Electrical Vehicles
Energy supply		4	4	3	2
Energy demand	1	2	5	3	
Building/house information		8			
Security		1	5	1	1
Weather forecast	1	6		1	
Building control centre		6			
Resolution plan and incentives				5	
Simulation			4		
Pricing	2			1	
Customer and contract				2	
EV charging					2
Event and KPIs			2		
External information		1		1	

FINESCE API Definition Structure

Thematic area	This is a descriptive name of the FINESCE WP that is responsible for the service. If there is a need for different thematic categories within the same WP, then each WP can define and use their own. In such cases the thematic area would be: <Descriptive name of FINESCE WP>:<Thematic area within the FINESCE WP>.
Service name	This is the name of the service. It should be indicative of what kind of processing the service is offering.
Service Description	This is the description of the service. It should address questions like: What does it do? What does it offer? It should be clear and precise.
Service input data	This is for describing, in a qualitative manner, the input parameters that are be required for carrying out the service processing. Input parameters can be described in a bulleted format, having each parameter as a separate bullet.
Service output data	This is for describing, in a qualitative manner, the output parameters produced by the service processing. Output parameters can be described in a bulleted format, having each parameter as a separate bullet.
Expected usage	This is an indication of how this service should be used. For instance, it could be a scenario where the service is used. It should provide an insight of when and for what this service can be used.
Based on GE	This is an indication whether or not the service is based on one or more GEs. It should be: Fully, Partially or No.
GE(s)	The name of the GE or GEs that this service is based on, or empty.
Resource URI	This is the URI of the RESTful operation.
HTTP method	One of: GET, PUT, POST, DELETE.
URL parameters	This is for describing any URL parameters that can be used.
HTTP request	This is a formal description of the request: request format, mandatory indication, request object.
HTTP response	This is a formal description of the response: response format, response object.

Thank You for Your attention!

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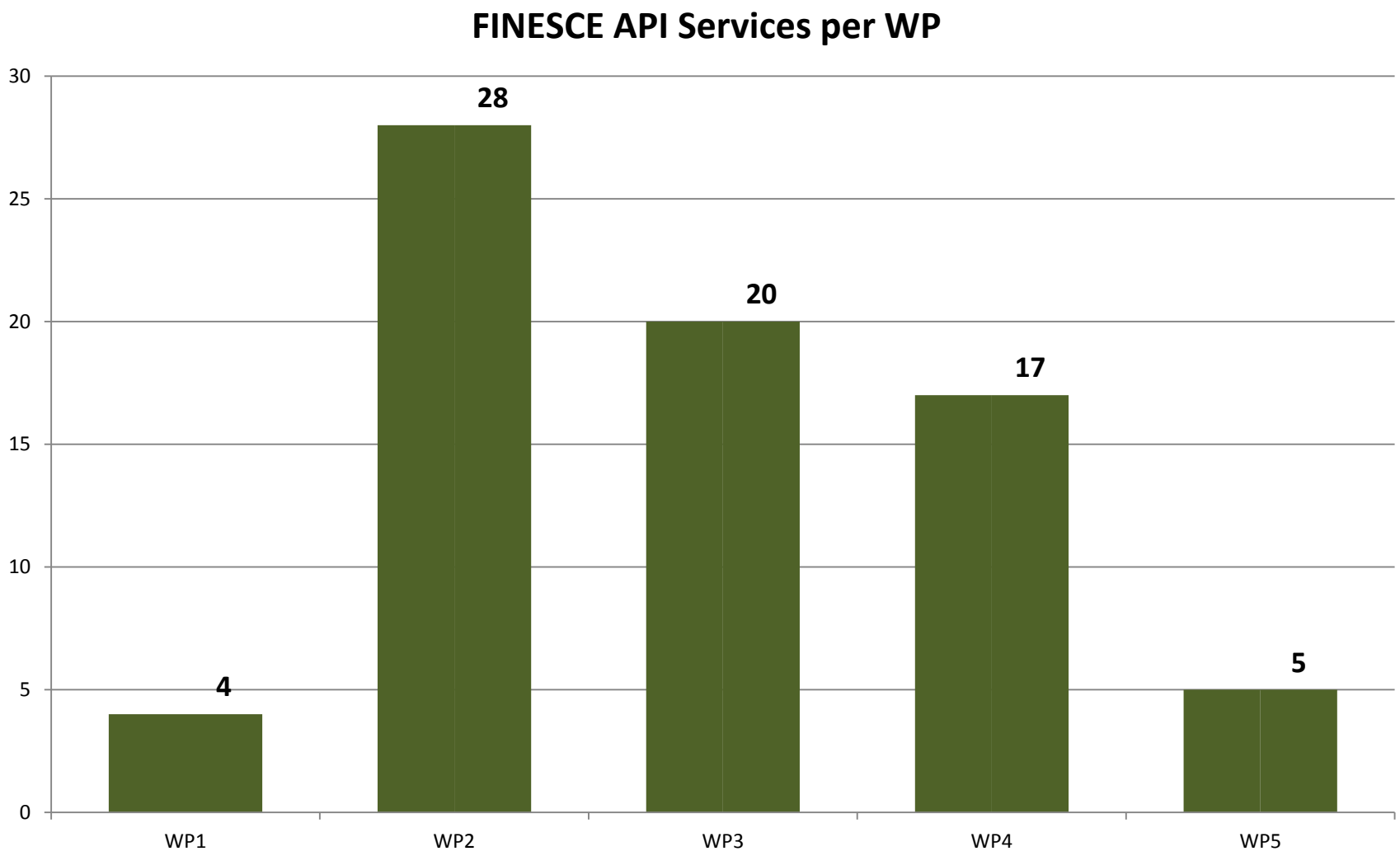
Backup Slides

Rules

- Rule 1: Keep it simple (newcomers & larger dissemination)
- Rule 2: Consider also advanced users
- Rule 3: Follow FI-WARE philosophy

FINESCE API Services



FINESCE API Categories

	WP1	WP2	WP3	WP4	WP5
Energy supply		✓	✓	✓	✓
Energy demand	✓	✓	✓	✓	
Building/house information		✓			
Security		✓	✓	✓	✓
Weather forecast	✓	✓		✓	
Building control centre		✓			
Resolution plan and incentives				✓	
Simulation			✓		
Pricing	✓			✓	
Customer and contract				✓	
EV charging					✓
Event and KPIs			✓		
External information		✓		✓	

FINESCE API Tasks and Deliverables

Task				Deliverable				
Task	**Period**	**Participants**	**MM**	**Deliverable**	**Beneficiary**	**Est. MM**	**Dissem.**	**Deadline**
T1.7 FINESCE API development	M10-M25	E.ON	2	D1.6 FINESCE API and Handbook	E.ON	2	PP	M24
T2.7 FINESCE API development	M10-M25	**DSE** Insero	- 3	D2.6 FINESCE API and Handbook	DSE	3	CO	M24
T3.7 FINESCE API development	M10-M25	**QSC** FIR Honeywell	6 2 7	D3.6 FINESCE API and Handbook	QSC	15	CO	M24
T4.7 FINESCE API development	M10-M25	ENG TERNI INP **SYN**	5 1 2 10	D4.6 FINESCE API and Handbook	SYN	18	CO	M24
T5.7 FINESCE API development	M10-M25	**ALUD** WIT	10 10	D5.6 FINESCE API and Handbook	ALUD	20	CO	M24
Task 7.2 FINESCE Technical management	M1-M25	**RWTH-ACS**	12	D7.7 Consolidated FINESCE API and Handbook	RWTH-ACS	4	PU	M24
						62		