



**ETIP SNET**

EUROPEAN SMART  
TECHNOLOGY AND NETWORKS FOR  
INNOVATION AND ENERGY  
PLATFORM TRANSITION

**PLAN.  
INNOVATE.  
ENGAGE.**

# **INTERACTIVE WORKSHOP FOR DEFINING THE UPCOMING ETIP SNET ROADMAP 2020-2030**

**19 May 2019**

**WG3 “Flexible Generation”  
Michael Ladwig, Chair**

# Roadmap 2020-2030

Road leading from A to B with

- A = status
- B = target

Map is showing different roads from A to B

- helping to find the best/fastest road
- allowing corrections on the way to B
- gives alternatives in case of unexpected hurdles (sudden “traffic jams”)

# Roadmap 2020-2030

So, what do we have to achieve till 2030, to enable, that we achieve the 2050 goals?

# Your Question(s) 1

Review slides 3 – 6

Are the different concepts presented clearly exposed and understandable?

Do you agree on the basic concept of the ETIP SNET roadmap as presented?

# Q1 - General Remark

While this new exercise is a clear attempt to streamline and make clearer some parts as compared to the previous Roadmap, it is not always easy to understand.

Starting with the names – with the introduction of “Integration” for each term – the feeling might be that it is overcomplicated

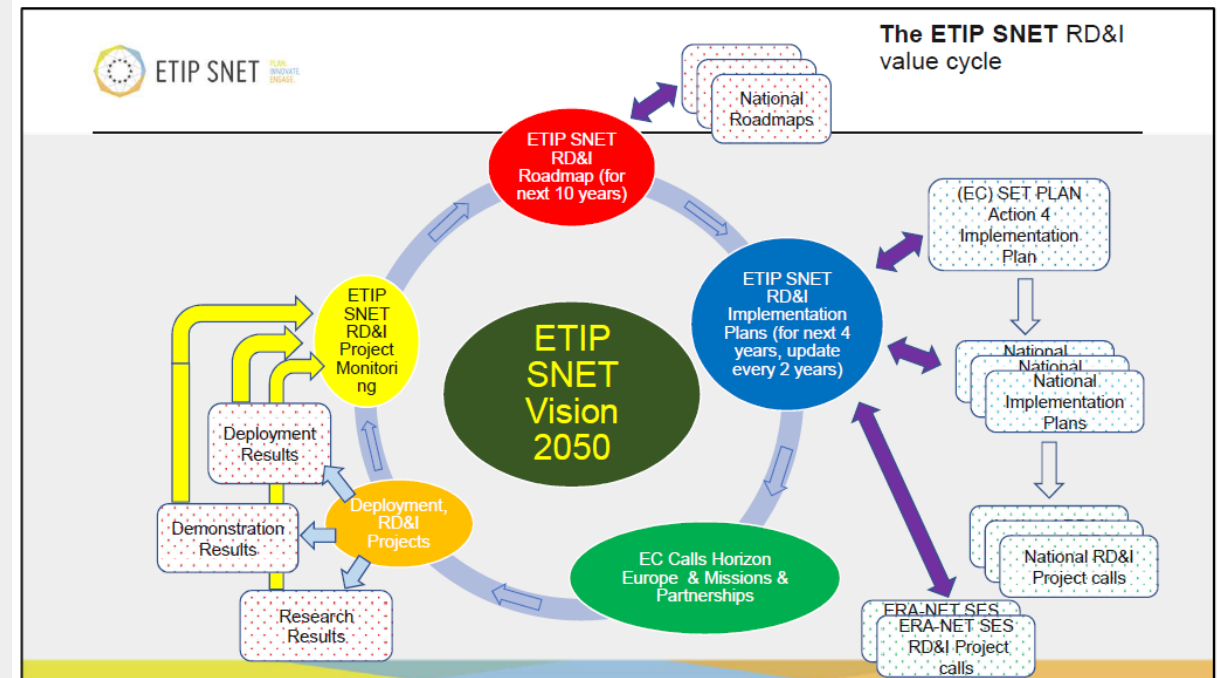
Delete the pre-word “integration”!

# Q1 - Slide 3

green circle on “EC Calls Horizon Europe and Missions & Partnerships” is in the right place?

while within the ETIP SNET we try to shape the future calls, it is not directly related (it may even rather be through the SET-Plan).

The calls contribute to the deployment of projects but should not be in the same circle as the other ETIP SNET activities – the EC calls would be contributors/enablers to the projects.

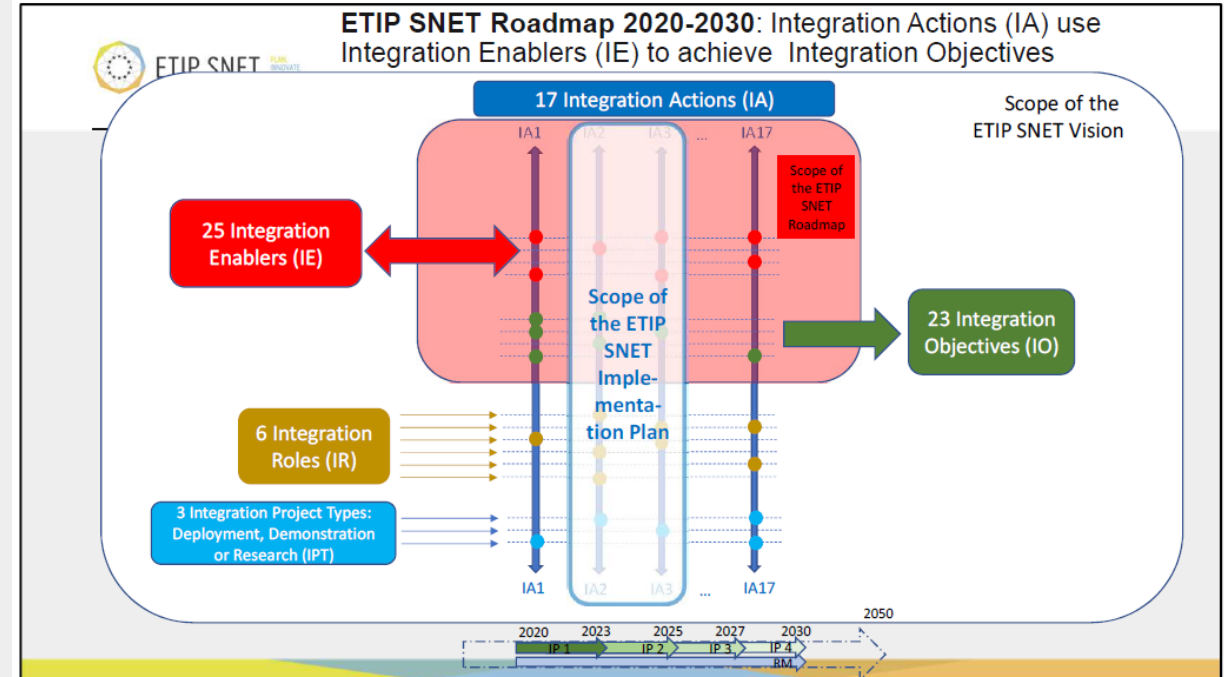


# Q1 - Slide 4

The difference between enablers and objectives is not always clear– the main objectives are very general (also difficult to quantify) and when they are detailed in the excel table, they often seem to be enablers as the aspects listed would contribute to the overall objectives.

It would be expected that some of the aspects on roles and project types are also included in the roadmap.

Maybe it would help if some examples per concept are provided here.

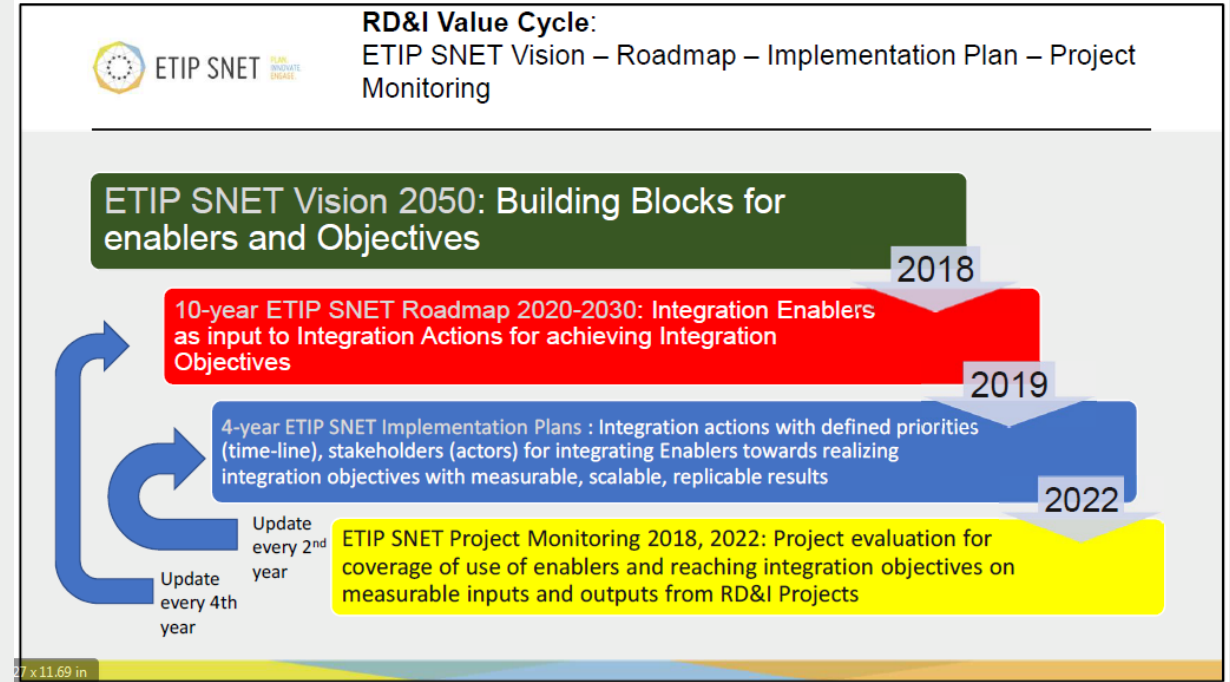


# Q1 - Slide 5

is the timeline provided for the project Monitoring correct?

It seems that it finishes too early, taking into account the other timeframes.

The arrow with 2019 should probably read 2020 – to be consistent with the rest, as well as with the next slide.

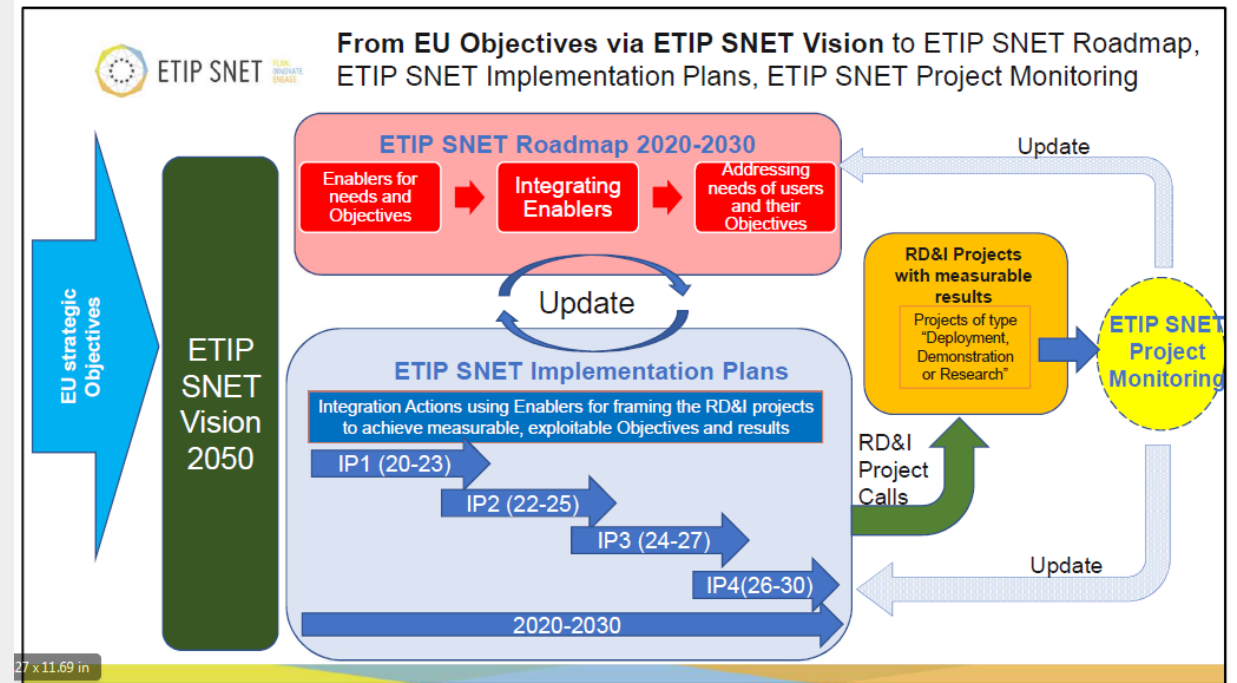




# Q1 - Slide 6

As in the previous slide, is the timeline for the Project Monitoring correct?

Is there any plan to update the Vision at some point – or is it expected to stay as it is until 2030?

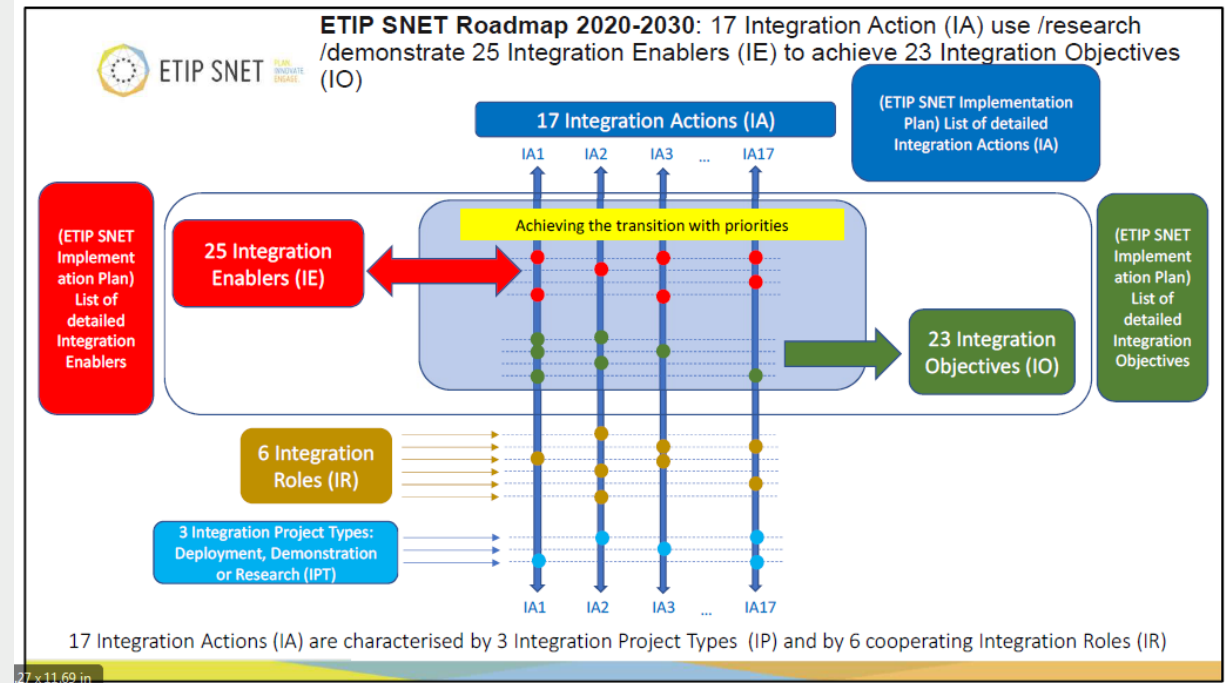


# Your Question(s) 2

Review slide 8

Is the general concept of the ETIP SNET Roadmap clearly exposed and understandable?

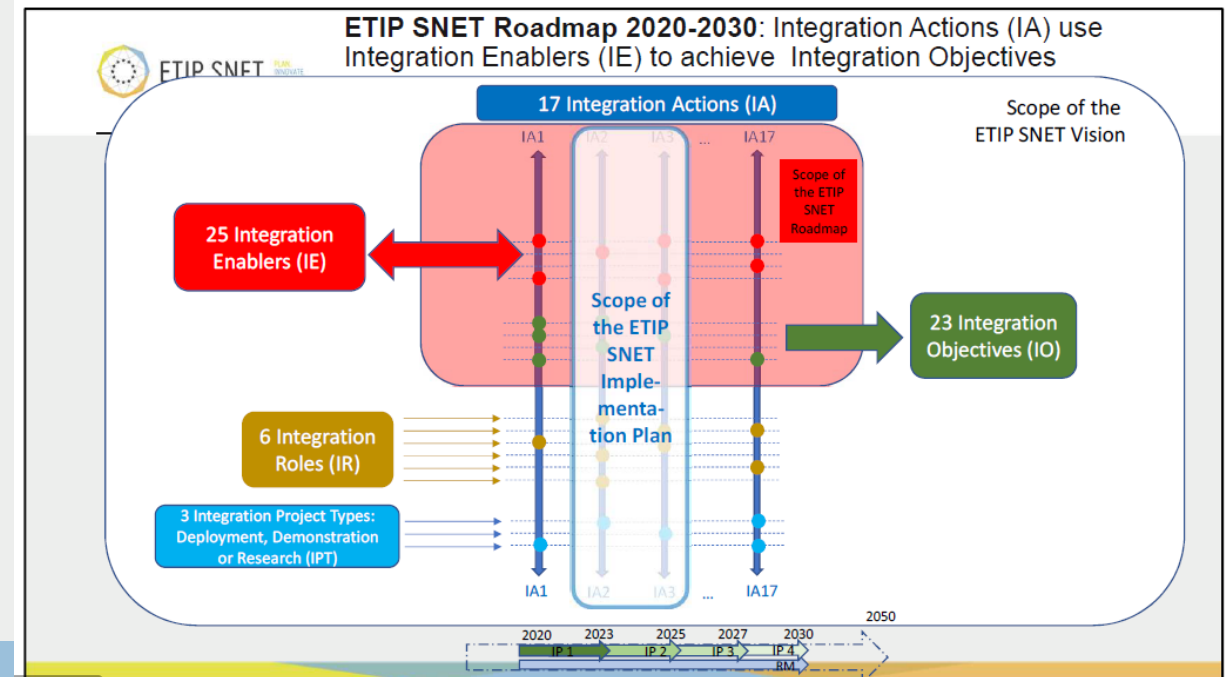
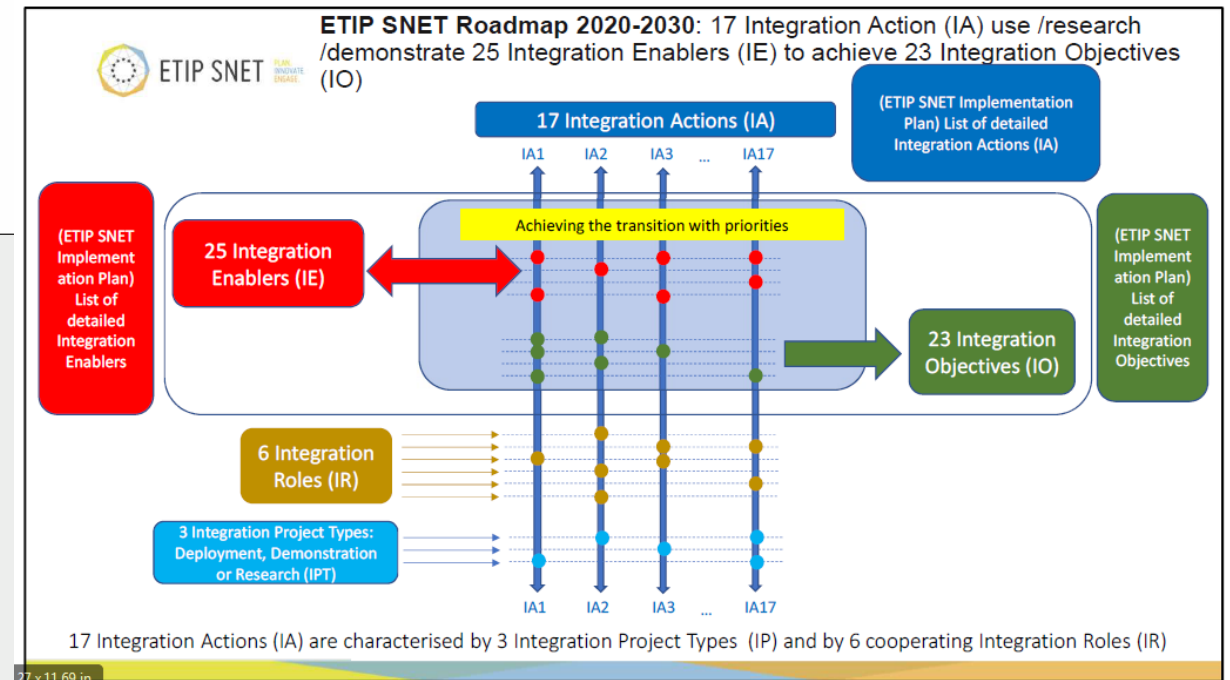
Do you agree with it?



The red, blue and green blocks are not clear – what are they supposed to show?  
 It is not consistent with the picture in slide 4 (which presented better what would be included in the IP).

At the same time, here the roles and project types seem to be part of the roadmap, while in slide 4 they seemed to be out.

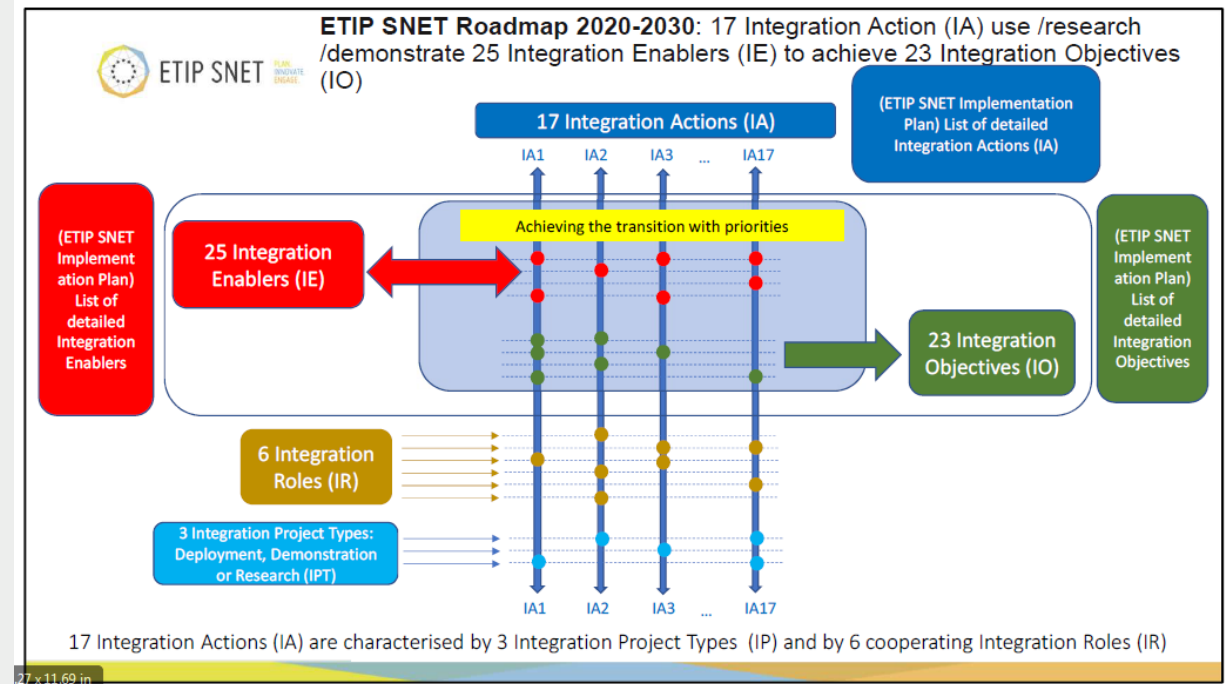
**Roles and Project Types should not be part of a roadmap, but the implementation plan**



As previously mentioned, the difference between objectives and enablers is not entirely clear.

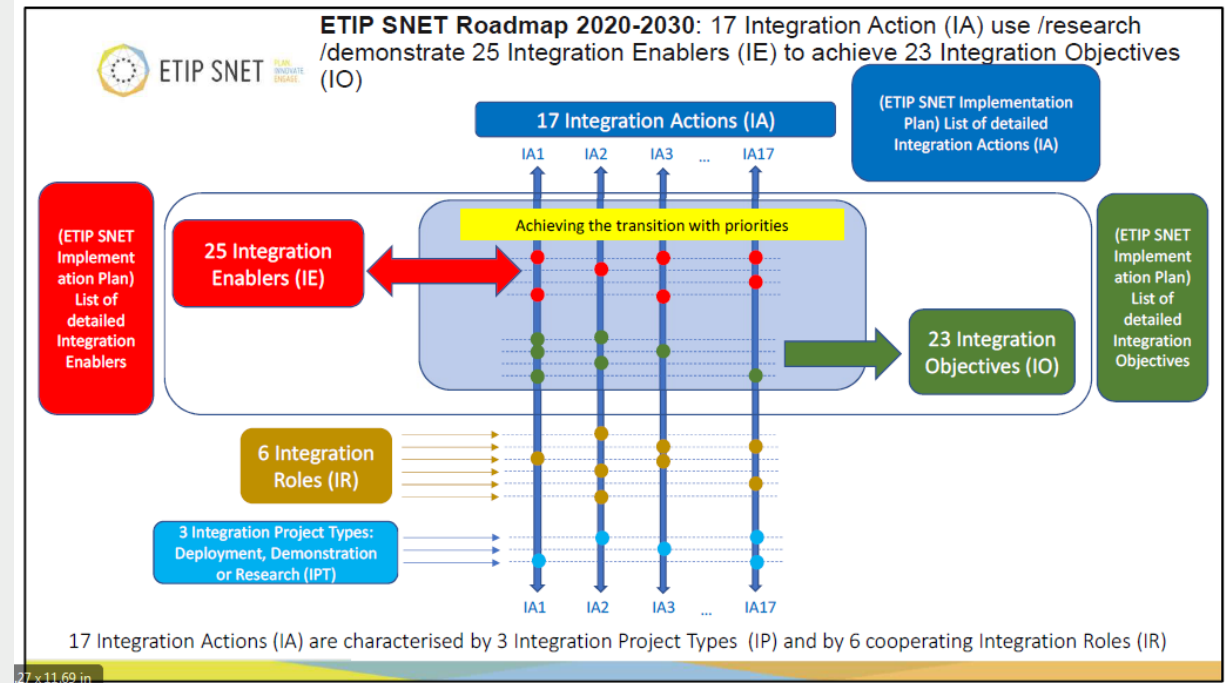
This is also not better explained in this slide.

Why are the red and green arrows different, and what are the arrows trying to show?



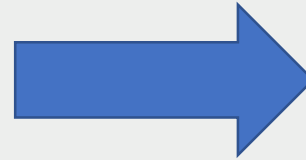
The statement “Achieving the transition with priorities” is also not defined – what priorities are meant here?

In the actions description in this document, reference to priorities is made, but it is not clear what this should be and/or how these priorities are “prioritised”.



# Q3 & Q4: Actions

<b>IA9</b>	DER (PV, Wind, Small hydro flexibilities)
<b>IA10</b>	Thermal, decentralised generation (Flexibilities)
<b>IA11</b>	Thermal, central (large) generation (Flexibilities)



<b>IA9</b>	Other Flexible RES (PV, Wind, small hydro, other)
<b>IA10</b>	Decentralised flexible thermal generation (RES and non-RES)
<b>IA10.5</b>	Centralized flexible hydro generation
<b>IA11</b>	Centralized flexible thermal generation (RES and non-RES)

# Q3 & Q4: Objectives

Higher Welfare & bet

IO2	IO3	IO4
Minimum asset maintenance costs, maximum lifetime (mainly regulated monopoly assets)	costs for overall grid-based energy systems (minimum cost system infrastructure designs)	European Wholesale Electricity and Gas market-based products and services (businesses)

WG3: What about minimum OPEX, maximum in availability and reliability?

IO6	new IO6.1	IO7
Actor roles, interrelationships, inputs, outputs, time and location dependencies, success factors	efficiency	Flexibility-enabled new materials and new technologies

WG3: What does it mean? Not clear!

IO7	IO8	IO9
Flexibility-enabled new materials and new technologies	operation optimising/s upporting Expert Systems and tools (is too generic!)	Cybersecure equipment and systems

WG3: What is this? We think only products, solutions and related services can provide

IO8	IO9	IO10
System operation optimising/s upporting Expert Systems and tools (is too generic!)	Cybersecure equipment and systems	DC and hybrid AC/DC grid elements

WG3: What is meant here?

# Q3 & Q4: Enablers 1

ICT Infrastructure and Digital enablers: provide flexibility, security at low cost to the electricity system with integrated gas, mobility and heating/cooling sub-system and its users					
IE1	IE2	IE3	IE4	IE5	IE6
Data Management enablers	Interoperability and standards enablers	Monitoring, control and automation enablers	Critical infrastructure protection (CIP) enablers	Cybersecurity enablers	ICT infrastructures related enablers

Enablers in Physical Electricity Infrastructures: provide circularity, flexibility, security, reliability, resilience, quality to the electricity system users					
IE7	IE8	IE9	IE10	IE11	IE12
Non-renewable (fossil) generation enablers	Renewable generation enablers	Conversion (PtX, XtP [Generation]) related enablers	Electricity Transmission enablers	Electricity Distribution enablers	Storage (with electricity release) flexibility enablers (Hydro storage, Battery storage, Gas storage, Heat/cooling storage)



# Q3 & Q4: Enablers 2

Enablers in Physical Non-Electricity Infrastructures: provide flexibility (also seasonal), circularity at low cost to the electricity system, to mobility and to heating/cooling				Social and Environmental Enablers: provide circularity, renewables investments and siting, adapted user behavior, infrastructure acceptance, own responsibility within the society with its citizens					Legal and regulatory enablers: provide maximum welfare, low cost, fairness and empowerment to users			
IE13	IE14	IE15	IE16	IE17	IE18	IE19	IE20	IE21	IE22	IE23	IE24	IE25
<b>Conversion (GtH, GTL) enablers</b> Storage (Non-electricity release) enablers (Heat storage, Gas storage, Liquids storage) Gas Network flexibility enablers Heating and Cooling network enablers				<b>Circularity enablers</b>	<b>Renewables enablers (for increased RES Siting, RES capacity)</b>	<b>Adaptive behaviour related enablers (for Efficient use, Knowledge)</b>	<b>Energy transmission and distribution, storage and conversion related acceptance enablers (for visibility, perceived dangers, costs, etc.)</b>	<b>Subsidiarity related enablers (for self responsibility)</b>	<b>EC and National Acts, Directives and Regulations as enablers (for sandboxes; unbundling; market versus natural monopoly; costs (CAPEX, OPEX), market design; Metering responsible; Control responsible)</b>	<b>Market rules as enablers (for access to markets, choice of products and services, price determination, congestion)</b>	<b>Grid rules as enablers (for natural monopoly, tariffs, connection, in-feed subsidisation, unbundling, self-prosumers)</b>	<b>End-Use Sector rules as enablers (for small and large users, for prosumers)</b>

WG3 basically agrees to these enablers

# Roadmap 2020-2030

Set boundaries  
and do not define everything!

A roadmap shall show alternatives to get  
from A to B including alternative routes.

Roles & Project Types shall be part of the IP

# Roadmap 2020-2030

Do not reinvent the wheels!

The vision document is a very good document and it shall be taken seriously.

Use wordings already used in the vision document and do not invent new wordings!

(Example: Objectives are already defined in the vision document!)