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The European Innovation Partnership (EIP) „Agricultural Productivity and Sustainability"

Moving Innovation in Agriculture Ahead !

Practical outcomes of the AKIS 2 report

AGRI Strategic Research & Innovation Conference

27 January 2016 – Brussels - Inge Van Oost - DG Agriculture and Rural Development

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1. Origin of the SCAR and the SWG AKIS

Background of the SCAR and the SWG AKIS

- 1974: **Standing Committee on Agricultural Research (SCAR)**: Representatives of Member States and associated Countries that advise the European Commission and Member States on **coordination of agricultural research**
- 2005: SCAR started "**Foresight"** exercises
- 2006, Krems (Austria): " *[SCAR to]* ***include*** *questions of* ***advisory services, education, training and innovation*** *in their discussions"*
- 2007 - 1st SCAR Foresight: "*The mounting challenges facing the agri-food and rural sectors in Europe calls for a review of the* ***links between knowledge production and its use to foster innovation*****"**

Start of the SWG SCAR-AKIS

- **2009 –** The 2nd SCAR Foresight shed a rather crude light on the current state of Agricultural Knowledge Systems in Europe: "*currently unable to absorb and internalise the fundamental structural and systemic shifts that have occurred.* ***The remaining publicly funded AKIS appear to be locked into old paradigms based on linear approaches*** *and conventional assumptions*."

- Currently: an even more **changing policy context**: the financial crises, global food security, the EU 2020 strategy: "Smart, sustainable, inclusive growth", European Innovation partnerships, CAP post 2013

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2. *April 2012: the SWG SCAR - AKIS 2 was invited to help the implementation of the agricultural EIP*

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DG AGRI's interest in Knowledge Systems

- The various parts of the AKIS **influence** more or less daily on-farm **decisions**, depending on how knowledge exchanges are organised
- The AKIS concept aims at better **understanding knowledge flows** within the system, focusing on the issue of knowledge access for a diversity of actors *(Hall et al. 2006)*
- A dedicated Strategic Working Group (SWG AKIS) of the Standing Committee of Agricultural Research (SCAR) has been **reflecting** and exploring AKIS systems since 2008
- The linear "knowledge transfer" system is not sufficiently adapted to and ready to **solve new and complex challenges**
- AKISs mostly work at a **national and/or regional scale:** look for EU-added value

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Having potential innovative knowledge is one thing, turning it into reality is another.

"The value of an idea lies in the using of it."

Thomas Alva Edison – inventor of the light bulb

- 2010: European Innovation Partnerships want to speed up innovation through **cooperation and linking** existing policies and instruments
- The EIP-AGRI was launched by DG AGRI in 2012: COM (2012)79
- The EIP-AGRI applies an overarching "*Open innovation*" concept based on the **interactive innovation model** (applied in Operational Groups and Multi-Actor projects):

  Collaboration between various actors to make **best use of complementary types of knowledge** (scientific, practical, organisational, etc) in view of **co-creation** and diffusion of solutions/opportunities **ready to implement in practice.**

- **EU wide EIP network** linking actors: communication, partnering, dissemination, knowledge flows and collecting practice needs (*Open science*)

* *In line with the main recommendation of the 2015 Milan Scientific Committee on transdisciplinarity, implementation and impact: 'more research into practice'*

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What is an EIP Operational Group?

- EIP Operational Groups funded under Rural Development Programmes are multi-actor, project based and **tackle a certain practical problem or opportunity** which may lead to an innovation (--→ taking into account end-user needs)
- The operational group is **tailored** to this problem/opportunity and **makes the best use of different types of knowledge** (practical, scientific, technical, organisational, etc) in an interactive way.
- The operational group is composed of **those key actors** (farmers, advisors, researchers, businesses, NGOs etc) which are in the best position to realize the project's goals and **to share experiences broadly.**
- **3205 OGs planned in 94 MS/regions in 2014-2020**

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Interactive innovation: Cross-fertilisation is key for tackling complex challenges and developing opportunities for innovation

Du choc des idées jaillit la lumière

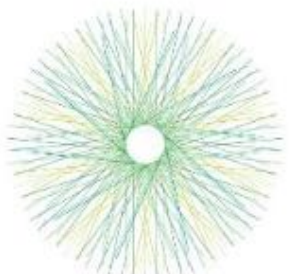
Nicolas Boileau, french philosopher, 17th century

3. The SWG AKIS 2 helped to build the the EIP-AGRI according to the SWG AKIS views, in particular on the H2020 side

European Innovation Partnership AGRI

Rural Development

- **Funding for setting up of an "Operational Group":** farmers, advisors, agribusiness, researchers, NGOs, etc **planning** an innovation project
- **Project funding** for the Operational Group's project. This co-operation could be combined with other RD measures (e.g. investment, knowledge transfer, advice)
- Supporting **innovation support services**



EIP-AGRI

EIP networks in MS/regions

Horizon 2020

- European **research projects,** to provide the knowledge base for innovative actions
- **Interactive** innovation formats such as **multi-actor projects and thematic networks** genuinely involving farmers, advisors, entreprises, etc…. "**all along the project**"

The multi-actor approach resulted from AKIS 2: Key elements under WP2016-2017 are:

- Focus on **demand-driven interactive innovation**
- Projects must **respond to end-users needs**
- **Genuine and sufficient** involvement of various actors **all along the project and in the consortium**, from planning to demonstration
- Beyond dissemination requirement and stakeholders' board
- **Produce substantial practical knowledge easily accessible and understandable**
- Rationale and requirements now in WP introduction p. 9-10
- **Contribution to EIP-AGRI** (for EIP-AGRI related areas)
  - Practice abstracts respecting the common EIP format
  - Strong recommendation to connect with RD Operational Groups

Interactive innovation is: an idea put into practice with success !

- ***an idea:*** interactive innovation occurs as a result of the **creativity** and interplay between actors for combining new and/or existing (tacit) knowledge
- ***put into practice:*** **ready to apply** by co-creation of concrete innovative solutions and making the best use of different types of knowledge (scientific knowledge, practical knowledge, organisational, etc): including the shaping of 'existing' knowledge into practice output in RUR 10 thematic networks
- ***with success :*** in the end, it is only when a new creation really becomes more or less mainstream that it is called an "innovation": generate **co-ownership** through involving partners

=> in interactive projects, communication and dissemination starts when the project starts

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Thematic networks ***in WP 2016-2017:***

- ***Compiling knowledge ready for practice***
- Themes **focus on the most urgent needs of agricultural or forestry production sectors**, or on important or promising cross-sectoral issues, including where primary production needs to improve its linkages to the supply chain
- Multi-actor groups **choose themes bottom-up**, contributing to a more competitive sustainable agriculture and forestry
- Support for the EIP through interaction with operational groups, and delivery of a substantial number of **"practice abstracts**", long term available and using the **main existing dissemination channels** most used by practitioners, audio-visual material wherever possible
- Greater **user acceptance** and dissemination of ready-made end-user material

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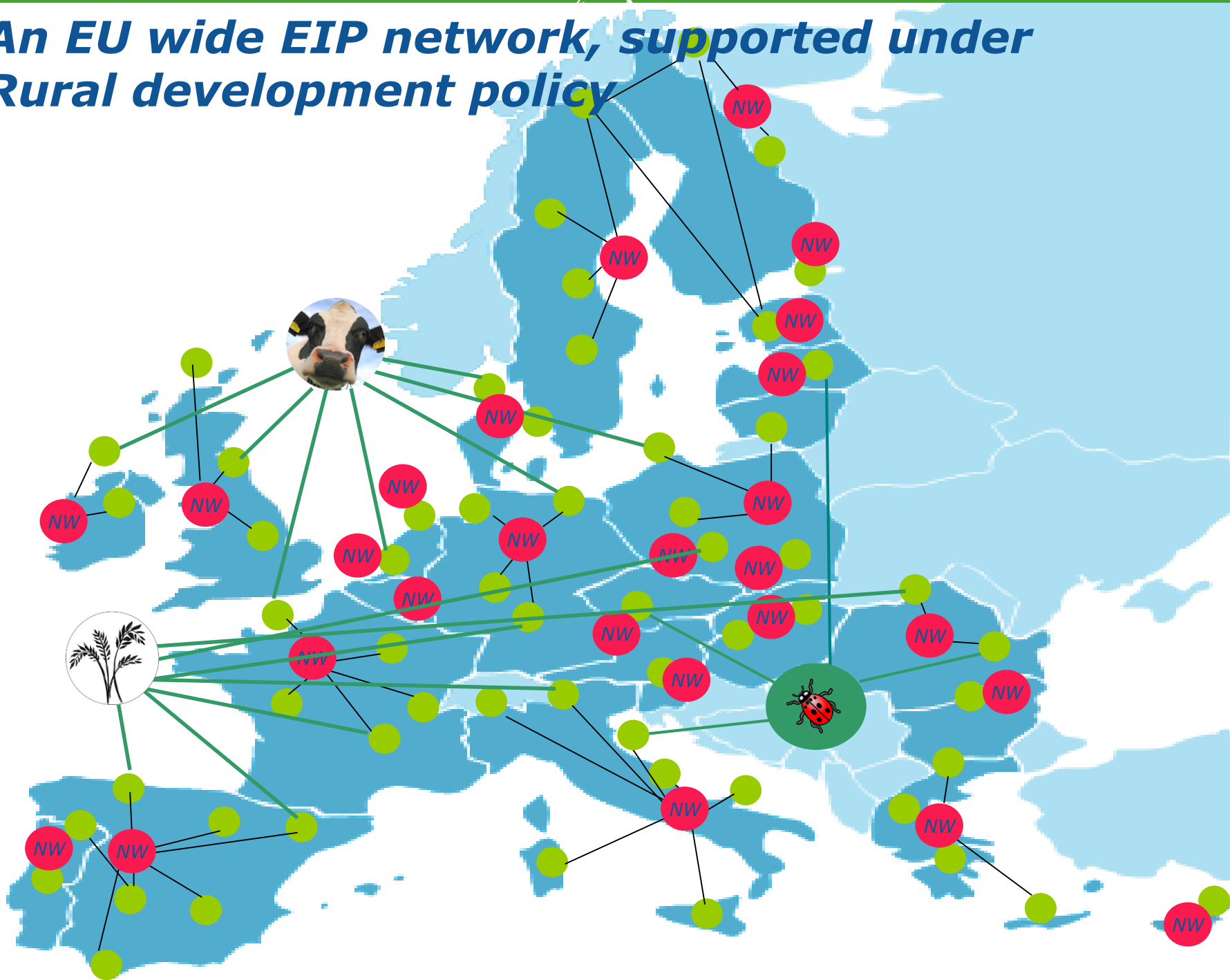
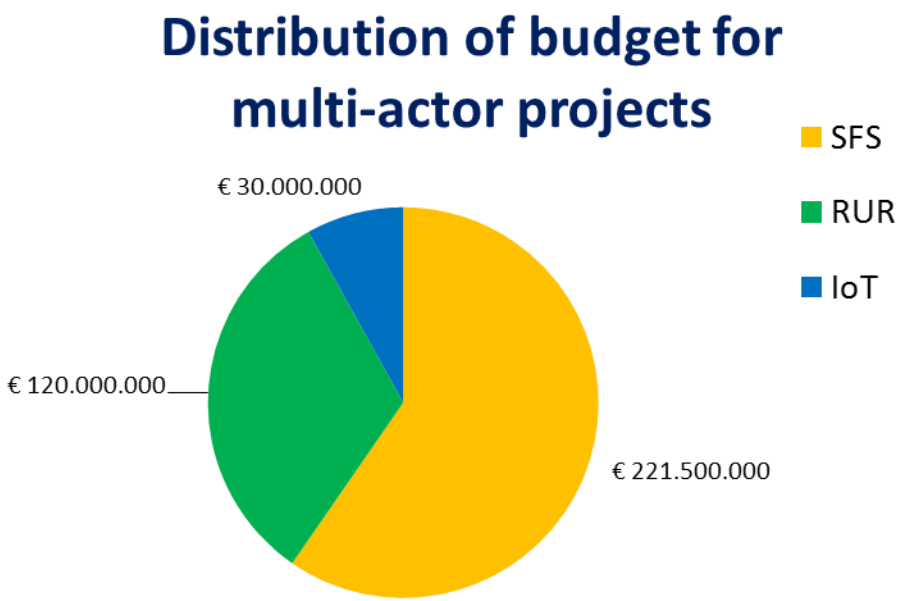
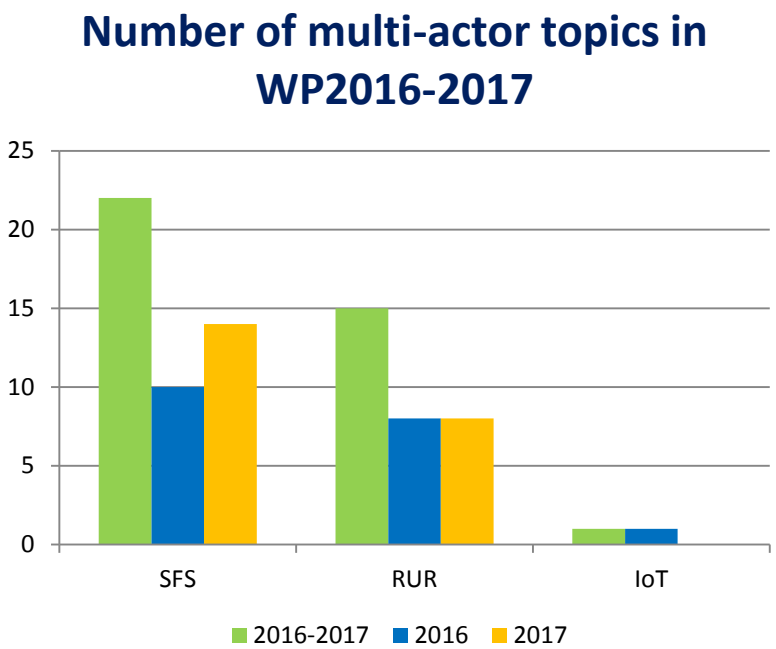
An EU wide EIP network, supported under Rural development policy



The H2020 Multi-actor approach is growing:

- *WP 2014-2015: 150 mio Euro*
- *WP 2016 -2017: investment X 2,5 → **371,5 mio €***
- ***38 topics in 3 calls**: SFS (221), RUR (120), IoT (30)*





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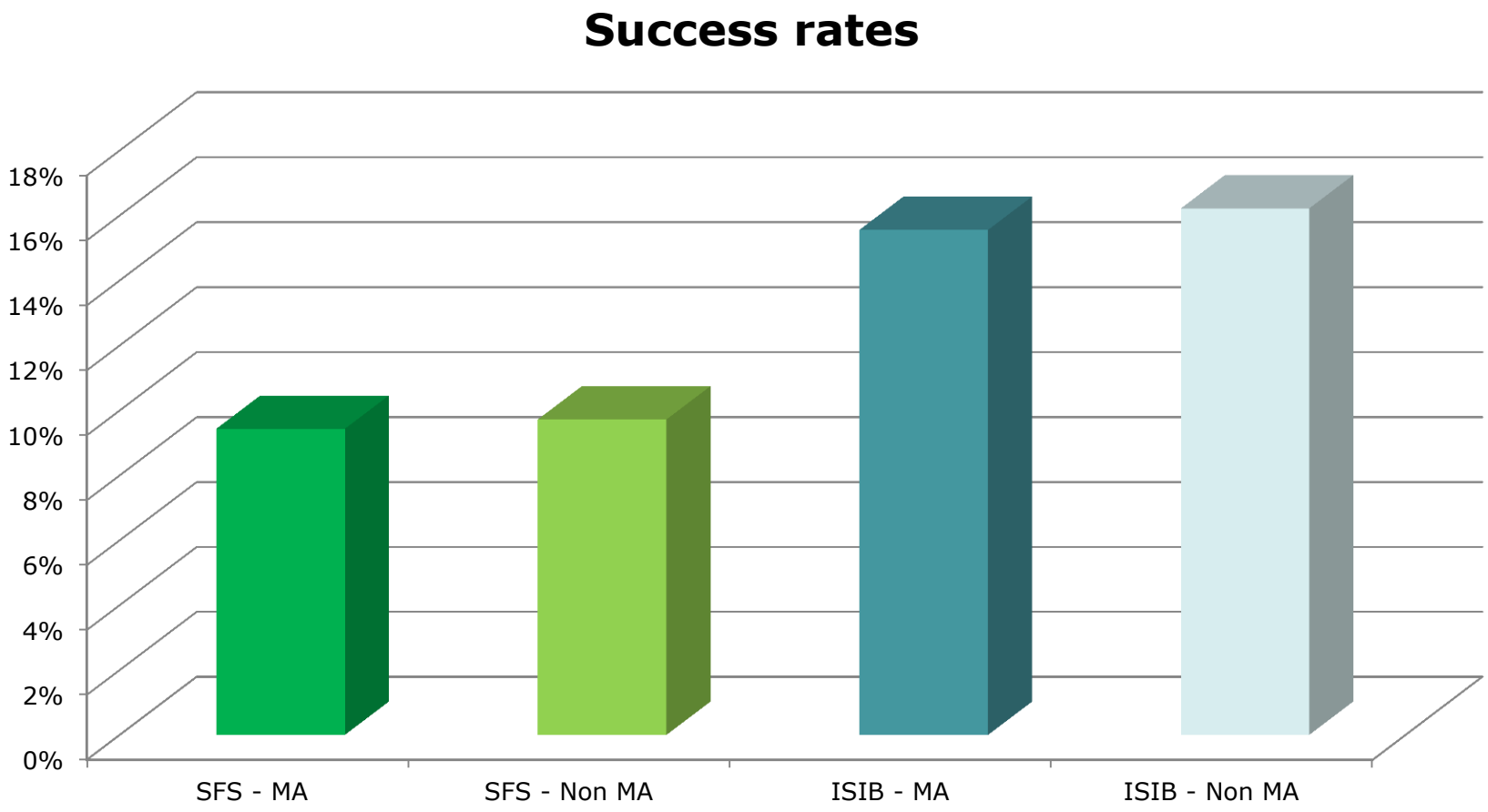
SFS & ISIB call 2015: Evaluation results multi-actor/non-multi-actor



Info on Horizon 2020 multi-actor projects

First calls in 2014.

Workshop "Interactive innovation in motion: multi-actor projects and thematic networks under Horizon 2020" on 24/11/2015:

Event page (incl. powerpoints): https://ec.europa.eu/programmes/horizon2020/en/news/interactive-innovation-motion-multi-actor-projects-and-thematic-networks-under-horizon-2020

Multi-actor approach and thematic networks - call 2016:
video-streamed presentation **(from 0:53:00 till 01:47:00)**
https://scic.ec.europa.eu/streaming/workshop-on-multi-actor-approach-and-thematic-networks-under-horizon-2020

+ questions & answers, project examples from call 2014

How to put results from EIP projects into practice "with success" ?

- **The common EIP format (for "practice abstracts")** was built on Member States' experience (KISS – act against information overload) and agreed at EU level thanks to the work of the Standing Committee for Agricultural Research (SCAR SWG AKIS): **https://ec.europa.eu/eip/agriculture/en/content/eip-agri-common-format**
- It will contribute to the **visibility and rewarding of researchers' work** in practice-oriented interactive innovation projects (e.g. thematic networks, multi-actor projects, rural development operational groups, etc)
- The unique EU repository of practice abstracts on the EIP website may help **measuring impact** of research on practice, similar to the research abstracts in peer reviewed journals.

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Start building an EU AKIS

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"I not only use all the brains that I have, but all that I can borrow"

Woodrow Wilson –
President of the USA, 1913-1921

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Innovation is: an idea put into practice with success !

Let's create a European AKIS:

To an „Agriculture of Knowledge" .....

Join the EIP

www.eip-agri.eu

Thank you for your attention!

Inge.Van-Oost@ec.europa.eu

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4. A few examples of multi-actor projects and thematic networks

4 Thematic networks – call 2014

http://agrispin.eu/
Innovation brokering and support

http://www.winetwork.eu/
Wine diseases

http://www.ok-net-arable.eu/
Organic agriculture arable crops

http://www.hennovation.eu/
Animal welfare hens

H2020 calls 2015: 16 new Multi-Actor projects, including 7 Thematic Networks

SFS-1C-2015	iSAGE	Sustainability of terrestrial livestock
SFS-2B -2015	SOILCARE	Soil cropping improving systems
SFS-5-2015	NEURICE	Crop productivity strategies (Genetics x Environment x Management)
	GoodBerry	
	TomGEM	
SFS-13-2015	MyToolBox	Biological contamination of crops and food chain
	MycoKey	
SFS-20-2015	Strength2Food	Sustainable food chains: EU quality policy and public sector procurement
ISIB-2-2015	Smart-AKIS	Smart Farming Technology: Farm Management Information Systems, Precision Agriculture and Agriculture automation and robotics
	HNV-Link	Support HNV farmlands through knowledge and innovation
	AGRIFORVALOR	Valorization of biomass side-streams from agriculture and forest
	4D4F	Data and sensor driven decision making on dairy farms
	EuroDairy	Practice-based innovations in dairy farming: resource efficiency, Biodiversity, Animal care, and Socio-economic resilience
	EUFRUIT	fruit: cultivar development, minimise residues, storage and fruit quality, sustainability of production systems
ISIB-4b-2015	ALTERFOR	Improved forest management models
WATER-4b-2015	FERTINNOWA	Optimize water and nutrient use efficiency: dbase on innovative technologies and practices for fertigation of horticultural crops

Multi-actor topics 2016: Sustainable Food Security (SFS)

SFS-1	Solutions to multiple and combined stresses in crop production	10 Mio €
SFS-2	Teaming up for good: Exploiting the benefits of species diversity in cropping systems	5 Mio €
SFS-6	Weeding - strategies, tools and technologies for sustainable weed management	7 Mio €
SFS-7	Organic breeding – Increasing the competitiveness of the organic breeding and farming sectors	8 Mio €
SFS-9	Spotlight on critical outbreak of pests: the case of Xylella fastid.	7 Mio €
SFS-11	Challenges for disease management: Perennial crops in the tropics and sub-tropics	12 Mio €
SFS-15	Breeding livestock for resilience and efficiency	7 Mio €
SFS-26	Legumes - transition paths to sustainable legume-based farming systems and agri-feed and food chains	10 Mio €
SFS-37	The impact of consumer practices in food safety: risks and mitigation strategies	9,5 Mio €
SFS-42	Promoting food and nutrition security and sustainable agriculture in Africa: the role of innovation	5 Mio €

Multi-actor topics 2016: Internet of Things (IoT)

IoT-01	Large-Scale pilots Pilot 2: Smart farming and food security	100 Mio € 30 Mio €

Multi-actor topics 2016 - Rural Renaissance (RUR)

RUR-1	Consolidated policy framework and governance models for synergies in rural-urban linkages	6 Mio €
RUR-4	Water farms – improving farming and its impact on the supply of drinking water	5 Mio €
RUR-6	Crop diversification systems for the delivery of food, feed, industrial products and ecosystems services - from farm benefits to value-chain organisation	20 Mio €
RUR-7	Resource-efficient and profitable industrial crops on marginal land	6 Mio €
RUR-8	Demonstration of integrated logistics centres for food and non-food applications	12 Mio €
RUR-10	Thematic Networks compiling knowledge ready for practice	10 Mio €
RUR-11	On-farm demonstrations: deepening farmer-to-farmer learning mechanisms	2 Mio €
RUR-14	Advisors' roles in the functioning of AKIS and advisory policies boosting innovation in sustainable agriculture	5 Mio €

Multi-actor 2017: Sustainable Food Security (SFS)

SFS-4	New partnerships and tools to enhance European capacities for in-situ conservation	2 Mio €
SFS-8	Organic inputs – contentious inputs in organic farming	8 Mio €
SFS-10	Emerging diseases in plants and terrestrial livestock	15 Mio €
SFS-16	Bee health and sustainable pollination	9 Mio €
SFS-17	Innovations in plant protection	10 Mio €
SFS-20	Science-based regionalisation of the Common Fisheries Policy	6 Mio €
SFS-27	Permanent grassland – farming systems and policies	10 Mio €
SFS-28	Functional biodiversity – productivity gains through functional biodiversity: interplay of crop pollinators and pest predators	10 Mio €
SFS-30	Closing loops at farm and regional levels to mitigate GHG emissions and environmental contamination - focus on C, N and P cycling	12 Mio €
SFS-34	Innovative agri-food chains: unlocking the potential for competitiveness and sustainability	6 Mio €
SFS-39	How to tackle the childhood obesity epidemic?	20 Mio €
SFS-48	Resource-efficient urban agriculture for multiple benefits – contribution to the EU-China Urbanisation Partnership	7 Mio €

Multi-actor 2017 - Rural Renaissance (RUR)

RUR-2	Coastal-rural interactions: Enhancing synergies between land and sea-based activities	5 Mio €
RUR-5	Novel public policies, business models and mechanisms for the sustainable supply of and payment for forest ecosystem services	8 Mio €
RUR-9	Business models for modern rural economies	9 Mio €
RUR-12	Networking European farms to boost thematic knowledge exchanges and close the innovation gap	7 Mio €
RUR-10	**Thematic Networks compiling knowledge ready for practice**	**10 Mio €**
RUR-13	Building a future science and education system fit to deliver to practice	7 Mio €
RUR-15	The benefits of working with others – fostering social capital in the farming sector	3 Mio €
RUR-16	Optimising interactive innovation project approaches and the delivery of EU policies to speed up innovation in rural areas	5 Mio €

Common format for practitioners ('practice abstract'): *info shared through the EIP network*

- Short and easily understandable **title** (one key sentence, max 150 char.)
- Short **summary** in easily understandable language (max 1500 char.):
  - What problem will the knowledge generated solve for the end-user? What will be the main benefits to the practitioner?
  - Main outcome/recommendation (2-3 main results)
- **Contact data:** Project coordinator (+ address, e-mail, telephone), text editor, project partners (+ address, e-mail, telephone), geographical location, project period, funding source & budget, link to project website and to a website where info stays long-term available

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5. Towards an EU AKIS:

The role of networking:

(National) (Rural) Networks' support linking and fitting into the existing AKIS

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EIP networking at national/regional level supported by Rural Development Programmes (NRNs)

Connecting actors and animating innovative actions:

- The **action plan of the National Rural Network** (NRN) should foster innovation and cover at least
  - the **search of partners** for Operational Groups
  - provide networking for advisors and **innovation support** services
- **Existing networks and platforms** can contribute to connecting stakeholders, preparing and discussing potential innovative ideas
- So, the NRN activities should connect within the region/country to existing networks and experience, and link to advisors and other actors to incentivise innovation projects and sharing

EIP networking under Rural Development Programmes beyond national/regional level

- **"Practice abstracts"** (in the EIP common format) will announce and report on all Operational Group projects and all Horizon 2020 multi-actor projects, providing project **visibility, long-term sharing of information and linking to other actors**

  http://ec.europa.eu/eip/agriculture/en/content/eip-agri-common-format
- Building **critical mass**: all EIP Operational Groups, H2020 multi-actor projects and thematic networks will share practical info in this format through the EIP web database
- Thematically-focused networks of different actors help collecting practical innovative info: **H2020 thematic networks**.
- **NRNs:** http://enrd.ec.europa.eu/enrd-static/networks-and-networking/nrn-information/en/nrn-information_en.html

IMPACT! Multi-actor projects in WP 2016-2017

A multi-actor project needs to **demonstrate**:

- how the project proposal's **objectives** and planning are **targeted to needs / problems and opportunities of end-users**
- **complementarity** with existing research and best practices

  *[What is the project's **added value**? - **Avoid recycling** projects: repetition and continuation of former projects – more of the same]*
- sufficient involvement of **key actors with complementary types of knowledge** (scientific and practical) should be **reflected in the composition of the project consortium** to reach the project objectives and make its results broadly implemented.

  [Include partners beyond scientists, such as farmers, farmers' groups, advisors etc - Don't forget to think about involving multipliers to strengthen impacts]

IMPACT! Multi-actor projects in WP 2016-2017

A multi-actor project:

- **As a minimum**, should result in **substantial** easily understandable practical knowledge for broad dissemination in the **common EIP format**

  [focus on concrete and concisely written results (not project activities description): possibly some 100 EIP practice abstracts in a practitioners/farmers' language, best practices resulting from the projects' work, some qualitative audio-visual material, etc

  Do not reinvent the wheel: use existing long term available dissemination channels for practitioners, lasting beyond the project period]

- Facilitation/**mediation** between actors and involving for instance **RD operational groups,** are strongly recommended

  [but don't make impossible promises and mix up funding sources and policies: H2020 consortia cannot start up Operational Groups]

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IMPACT!
Demand-driven innovation in Multi-actor projects

- "multi-actor" is more than a strong dissemination requirement or a broad stakeholders' board
- "*all along the project*" *: **a clear role for the different actors** in the work plan, from the participation in the planning of work and experiments, their execution up until the dissemination of results and the possible demonstration phase.
- Project proposals should illustrate sufficient quantity and quality of **knowledge exchange activities**

Actor: a partner taking part in project ***activities***

Stakeholder: person expressing a **view/*stake*** at a certain moment during the project

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Thematic networks ***in WP 2016-2017: Compiling knowledge ready for practice***

Clearer focus on primary production's needs:

- Themes must **focus on the most urgent needs of agricultural or forestry production sectors**, or on important or promising cross-sectoral issues, including where primary production needs to improve its linkages to the supply chain

- Themes to be chosen **bottom-up**, contributing to a more competitive sustainable agriculture and forestry

  *[can be linked to **products or sectors**, e.g. arable crops, fruits, vegetables, pig,…etc) or a broad range **of cross-cutting subjects**, e.g. crop rotation, certain farming practices, energy, implementation approaches of a directive, eco-system services, social services, bio-based products, short supply chains,…etc]*

Thematic networks ***in WP 2016-2017: Compiling knowledge ready for practice***

Expected impact:

- Support for the EIP through interaction with operational groups, and **delivery of a substantial number of "practice abstracts"** in the common EIP format *[provide a good description & quantification/qualification of the outputs]*
- Long term available

  [KISS, no temporary fancy IT tools/platforms]
- Using the **main existing dissemination** channels most used by practitioners

  [where the material stays available after the project finishes]
- Audio-visual material wherever possible

  [farmers/end-users learn with their eyes]
- Greater **user acceptance** and dissemination of end-user material

Thematic networks ***in WP 2016-2017:***
Compiling knowledge ready for practice

Thematic networks **are not:**

- **networks for discussion**
- **research** projects
- networks **intended to prepare a research agenda**. *Thematic networks aim to put existing research into practice by focusing on end-user material feeding into the EIP network for broad dissemination*
- **awareness-raising or supply chain platforms/networks**. *Thematic networks intend to spread practical knowledge, and to make this happen they should be involving practitioners (farmers/foresters) in a multi-actor approach and working bottom-up starting with farmers and their needs*.

Thematic networks ***in WP 2016-2017:***
Compiling knowledge ready for practice

- Projects **involving all actors relevant for the chose theme** (e.g. researchers, farmers, advisors, enterprises, education, NGOs, administration, regulatory bodies, EIP project groups…):

  [no pure research networks, use funding efficient: not as many actors as possible but chose those actors that are complementary and can really contribute]

- Provide a comprehensive **description of the state of the art**: Partners should summarise, share and **present existing scientific knowledge & best practices that are not sufficiently known (and applied) by practitioners**

  *[when defining objectives: illustrate the **added value, relevance of the theme, needs and potential for farming/forestry**. Get input from the existing projects from various funding sources and avoid recycling of projects and project partners]*

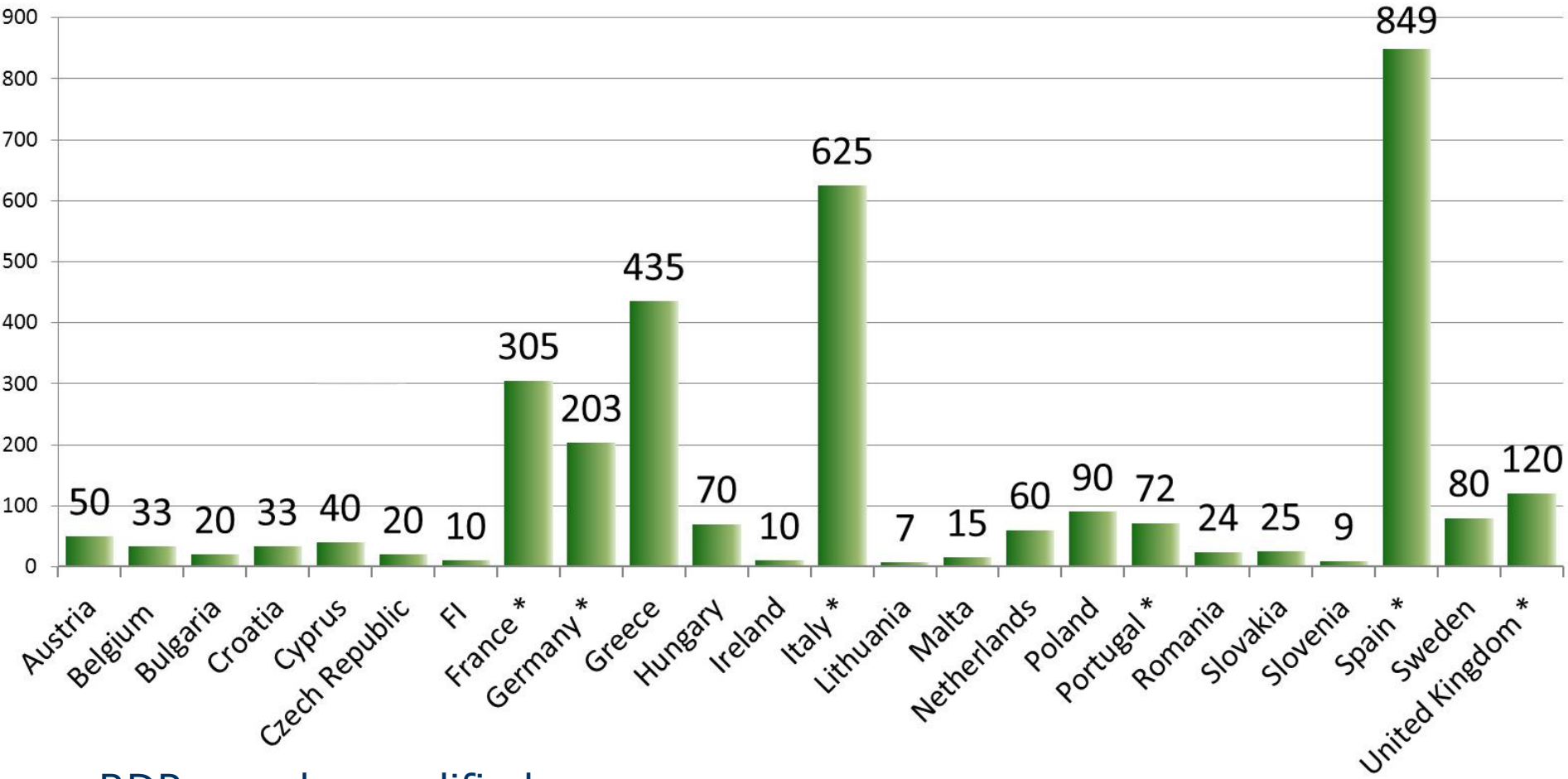
Operational Groups – All Rural Development Programmes 2014-2020 have now been approved

- The EIP implementation via rural development programmes aims at a **flexible and open system** for the creation of a multiplicity of operational groups (OGs)
- **94 MS/regions** will be implementing the EIP in their 2014-2020 Rural Development programmes with **regular calls for Operational Group projects during this period**
- **3205 planned OGs in 2014-2020**
- Situation in your MS/region: see

http://ec.europa.eu/agriculture/rural-development-2014-2020/country-files/index_en.htm

Approved RDPs 2014-2020:

Number of planned EIP Operational Groups



- RDPs can be modified once a year

* Sum of the regional programmes

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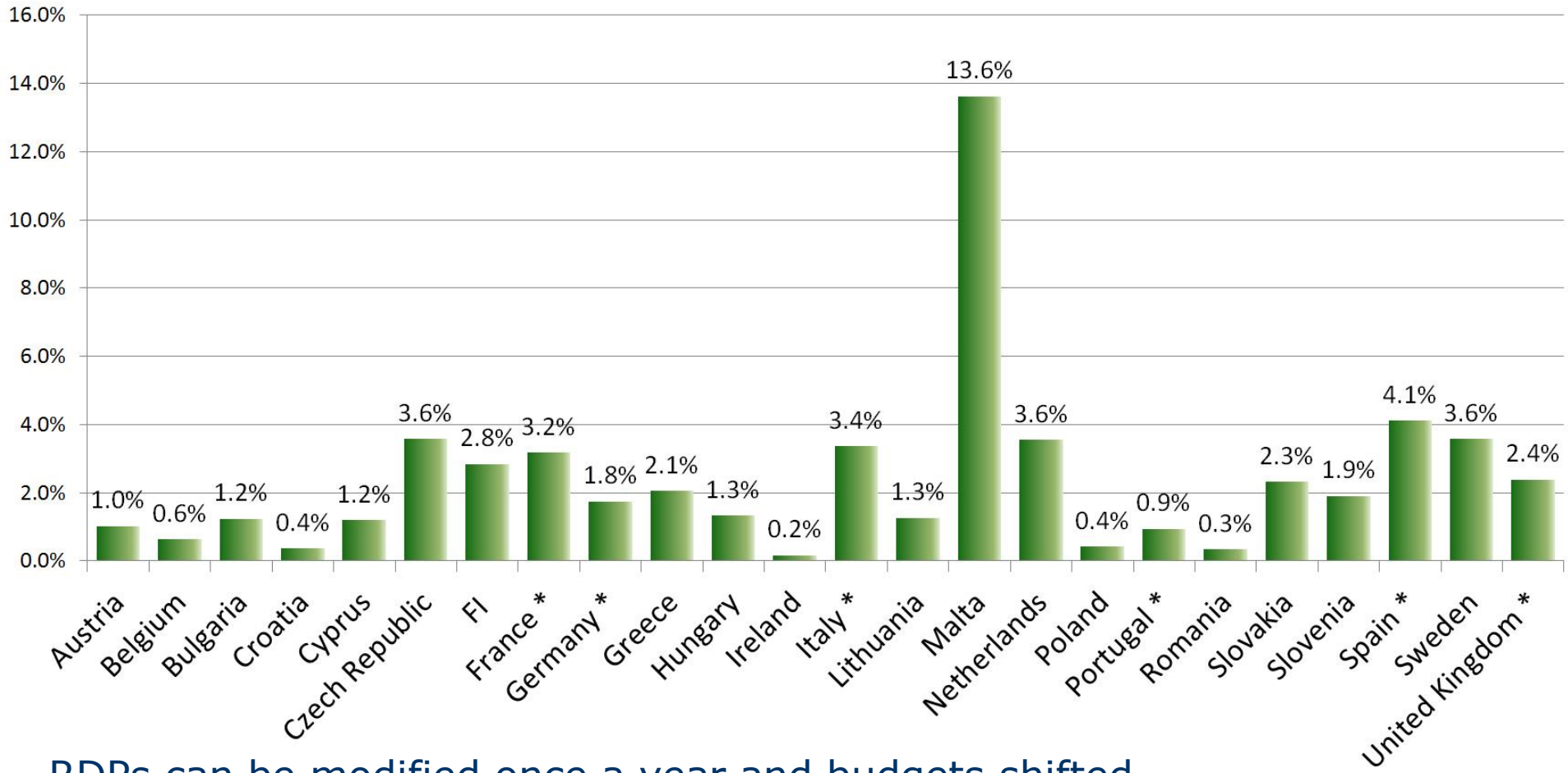
Approved RDPs 2014-2020:
Share of the cooperation measure in the total EAFRD budget



RDPs can be modified once a year and budgets shifted between measures

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* Sum of the regional programmes