



# Innovation Discussion

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# Agenda

- What is innovation?
- Targets and expected Outcomes
- Four examples
- Discussion (15 minutes)



# What is Innovation?

*“The **successful exploitation** of new creations, which when used produce tangible benefits, satisfying needs and wants”*



## **Invention**

Research and development

## **Innovation**

Successful exploitation

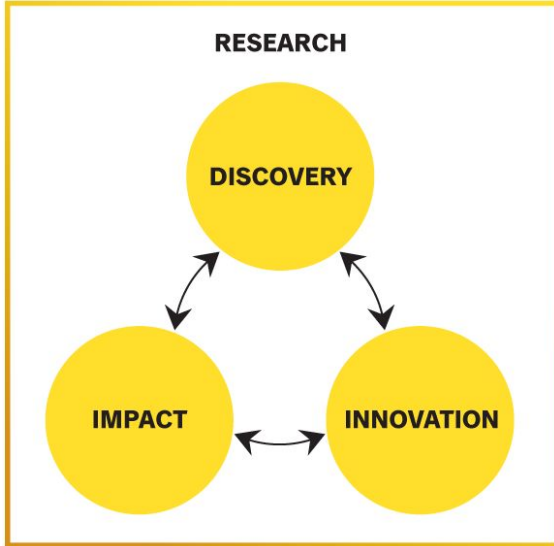
## **Impact**

Benefitting society

Innovation (for the EU) is neither research nor invention  
See Milestone 2.2 for more discussion and survey results.



# N. American Perspective ....



US and Canadian research institutions recognise outputs related industrial challenges, broader societal issues and fostering research as innovation.

But, the European Commission is focussed on the role of Research Infrastructure in fostering innovation -- does not recognise enhancement to research infrastructure as innovation (yet).

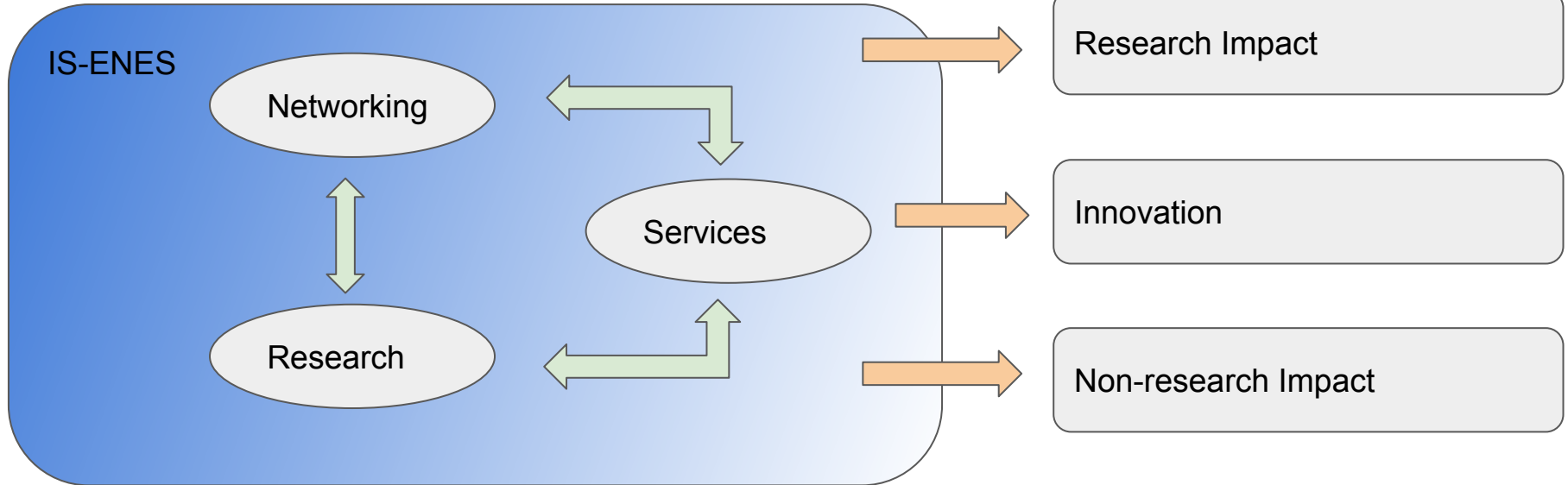
*“Innovation is discovery and creativity transformed into processes, outcomes and solutions” (Dalhousie University)*

[www.dal.ca/research/DiscoveryInnovationandImpact.html](http://www.dal.ca/research/DiscoveryInnovationandImpact.html)

# The Role of Innovation in IS-ENES

## Activities

## Outputs



# Who are the targets?

- NOT research (applied, impacts, etc);
- NOT EVEN research supporting policy etc .....
- The targets are all non-research activities, in all economic sectors:
  - **Business** (“Commercial”)
  - **Public** (Policy, public service providers, etc)
  - **Private** (for personal use)
  - **Voluntary** (non-governmental and non-profit)



Non-research in all cases: collaborative research projects are not part of our target here.

*The concept of economic sectors is widely understood, but there is no standard set of sectors: these are sectors by **ownership** taken from wikipedia.*



# Expected Outcomes of Innovation Virtual WP

- Clarifying: “What is Innovation?” and “Who are the Targets?”
  - Use in commercial markets
  - Societal innovation (policy, services)
- Clear reporting of Innovation
  - Metrics (new ideas, feedback on examples, references)
  - How to collect information (Period Report? Another Survey?)
- Encouraging Innovation in IS-ENES3
  - Identifying potential (guidelines? examples?)
  - Strengthen existing innovation activities (sharing successful strategies? exploit metrics)



# Four Examples

1. Summer Schools and Training Activities: All Sectors [potentially]
2. Climate4Impact Portal: All Sectors [potentially]
3. IPCC Assessment Round 6 (AR6): Public Sector -- Intergovernmental
4. Copernicus Climate Change Service (C3S): Public Sector, Service Provider



# Example 1: Summer Schools and Training activities (all sectors)

The summer school and training activities are making the tools developed within the IS-ENES (e.g. the C4I portal) known to a broader audience.

**Evidence of Innovation:** Non research participants at events (*but: not yet quantified*).

**Potential Metrics:** Number of non-research trainees and the degree of relevance to their work (e.g. “very useful”, “useful”, .... “not relevant”). Perhaps through a survey or feedback form.

## Exemple 2: Climate4Impact Portal (all sectors)

The climate4impact platform provides service and software already used by impact modelers, companies, SMEs, expert teams, to assess climate change impacts.

**Evidence of Innovation:** direct evidence of measurable use outside research is not collected at the moment.

**Potential Metrics:** numbers of non-research users in business, public, private and voluntary sectors could be estimated -- e.g. through a survey.

## Example 3: IPCC Assessment Round 6 - AR6 (public sector -- intergovernmental)

The IPCC's reports are comprehensive and balanced assessments of the state of knowledge on topics related to climate change. They provide policy relevant information which underpins global agreements on climate change adaptation and mitigation. Huge societal impact, also through public opinion.

**Evidence of Innovation:** ESMVal work supporting several WG1 chapters; CMIP6 data publication, replication and QC; data citation services; server access.

**Potential Metrics:** Number of chapters supported by IS-ENES outputs.

## Example 4: Copernicus Climate Change Service (public sector)

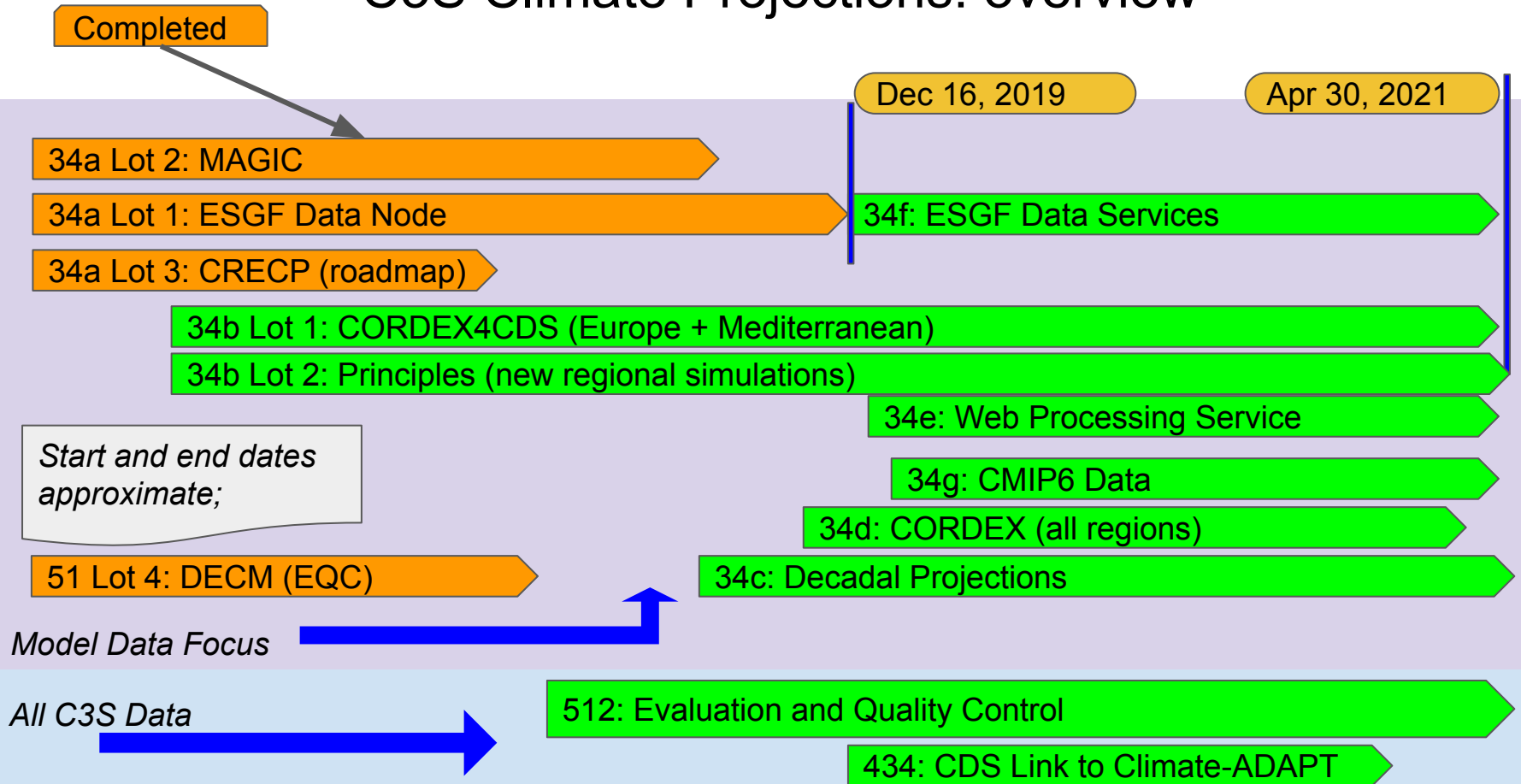
The Copernicus Climate Change Service (C3S) “*supports society by providing authoritative information about the past, present and future climate in Europe and the rest of the World*”.

**Evidence of Innovation:** IS-ENES partners are supporting C3S services in many ways, including provision of services which are dependent on IS-ENES infrastructure.

**Potential Metrics:** Financial income from C3S.



# C3S Climate Projections: overview



# Metrics (for discussion on Friday)

1. Number of people reached (estimated and provided in size categories);
2. Number of organizations exploiting the product (count of SMEs, medium enterprises and large enterprise);
3. Number of non-research products or services enabled by IS-ENES;
4. Criticality: is the product playing a critical role in a non-research activity, or is it a peripheral contribution (this might be difficult to quantify)?
5. Resources received: financial income from non-research organisations paying for IS-ENES foreground (e.g. Copernicus Climate Change Service paying for provision of climate projections).

# Common issues (for further discussion on Friday)

- **Issue:** We are sure that there are non-research users (or will be soon), but we don't have any data [climate4impact, training workshops];
  - **Recommendations:** capture information via survey or registration.
- **Issue:** There is an important innovation activity, but it is not easy to measure or quantify;
  - **Recommendations:** report on the importance -- perhaps with an ad-hoc scale of importance.
- **Issue:** There are many researchers using our products and it will have a big societal impact one day:
  - **Recommendations:** report as research output for now -- but it is not "innovation". "Impact" is another important section of the project reporting.

# DISCUSSION

**Around coffee discussion “Copernicus and climate projections”**

**Friday 14h-15h15**

Meeting URL: <https://ukri.zoom.us/j/695660097>

