VQR and Third mission

prof. Alessandra Celletti
ANVUR Vice-President
VQR 2015-2019 Coordinator
1. VQR 2015-2019
A first, still experimental, evaluation exercise was conducted by CIVR in 2007 (called VTR 2001-2003).

ANVUR conducted three VQR evaluation exercise:
- the first in 2011-2013, the VQR 2004-2010
- the second in 2015-2017, the VQR 2011-2014
- the third one started at the end of 2019 and it will be completed by the end of July 2022, the VQR 2015-2019.

Evaluation concerns Institutions, does NOT concern individuals.

It is not appropriate to use the results to compare different SSDs, particularly within the same institution.
• **Governing Board**
  Proff. Antonio Uricchio (President);
  Alessandra Celletti (Vice-President);
  Marilena Maniaci;
  Menico Rizzi;
  Massimo Tronci.

• **Director**
  Dr. Daniele Livon

• **Senior Manager for Administration**
  Dr. Brancati

• **Senior Manager for Research evaluation**
  Dr. Marco Malgarini

• **Officers Dr.**
  B. Blasi, P. Costantini, V. Leproux, F. Macrì,
  C. Nappi, I. Mazzotta, F. Pentassuglio, S. Romagnosi,
  S. Sarlo, C. Trani (CINECA)

• **CINECA Team Dr.**
  M. Avellino, P. Bonetti, R. Gori, G. Racale

### ANVUR and GEV

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<thead>
<tr>
<th>GEV</th>
<th>Coordinator</th>
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<tr>
<td>Area 1 - Mathematics and Computer Sciences</td>
<td>Prof. Giovanni Federico Gronchi</td>
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<tr>
<td>Area 2 - Physics</td>
<td>Prof. Sabino Matarrese</td>
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<td>Area 3 - Chemistry</td>
<td>Prof. Roberto Paolesse</td>
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<td>Area 4 - Earth Sciences</td>
<td>Prof. Massimiliano Barchi</td>
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<td>Area 5 - Biology</td>
<td>Prof. Valeria Poli</td>
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<td>Area 6 - Medicine</td>
<td>Prof. Alessandro Padovani</td>
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<tr>
<td>Area 7 - Agricultural and veterinary sciences</td>
<td>Prof. Stefania De Pascale</td>
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<td>Area 8a – Architecture</td>
<td>Prof. Alessandro Balducci</td>
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<td>Area 8b - Civil Engineering</td>
<td>Prof. Marco Marani</td>
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<td>Area 9 - Industrial and Information Engineering</td>
<td>Prof. Sara Rainieri</td>
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<td>Area 10 - Ancient History, Philology, Literature and Art History</td>
<td>Prof. Carlo Giovanni Cereti</td>
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<td>Area 11a - History, Philosophy, Pedagogy</td>
<td>Prof. Lina Scalisi</td>
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<td>Area 11b - Psychology</td>
<td>Prof. Rosalinda Cassibba</td>
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<td>Area 12 - Law</td>
<td>Prof. Marina Brollo</td>
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<td>Area 13a - Economics and Statistics</td>
<td>Prof. Emanuela Marrocu</td>
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<td>Area 13b - Economics and Management</td>
<td>Prof. Maria Rosaria Napolitano</td>
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<tr>
<td>Area 14 - Political and Social Sciences</td>
<td>Prof. Maurizio Ambrosini</td>
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<tr>
<td>Interdisciplinary Impact/Third mission</td>
<td>Prof. Sauro Longhi</td>
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VQR 2015-2019: key facts

• 17 Disciplinary Panels and 1 Third Mission Panel in charged of evaluation
  – 615 experts for the research outputs
  – 30 experts for the Third Mission

• 24 Assistants

• 11,299 external peer reviewers were used in the evaluation

• 134 Institutions assessed
  – 98 Universities,
  – 14 Public Research Institutes (supervised by the Ministry)
  – 22 Other Institutions performing research activities (on a voluntary basis)

• 65,119 researchers involved

• 182,648 research outputs and 676 Third Mission case studies evaluated
Evaluated Institutions

- Public Universities
- Special Tertiary Education Schools
- Private Universities
- Public Research Institutes (supervised by the Ministry)
- Volunteer Institutions
2. Third Mission
Terza Missione

«Third Mission is the set of activities with which the Institutions interact with society, besides the traditional missions of research and teaching»
da: Rapporto sullo Stato del Sistema Universitario e della Ricerca 2013 – p. 559

Case studies were related to TM activities in one or more fields of action, whose impact was verifiable in the period 2015-19

Usually referred to Departments or similar structures (max 2 per Department) or to the whole Institution

Referred to activities during the period 2015-2019, but that generated an impact in part or in the whole period 2015-2019

Case studies with an impact outside the period of evaluation were not considered admissible
## Evolution of TM in VQR 1 – 2 – 3

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- **VQR 2004-2010**
  - Broad definition of third mission (patents, spin-offs, museums, public involvement activities, etc.)
  - Use of a set of indicators based on counting (number of spin-off companies,...), with data from internal monitoring systems of institutions (no central data collection system)
  
  ➔ Need for more reliable data and refinement of definition

- **VQR 2011-2014**
  - Construction of a central data collection system (SUA-RD, Third Mission) for comparability and standardisation; output and outcome indicators (revenues and employees of spin-off companies, ...)
  - Development of an informed peer review model (publication of the Evaluation Manual): data + expert judgement
  
  ➔ Difficulty in adjusting between data and indicators and taking into account context

- **VQR 2015-2019**
  - Like in VQR1-2, the broad definition of TM is confirmed and the Guidelines for the compilation of SUA-TM (ANVUR 2018) are recalled.
  - The evaluation methodology changes: instead of the activities, a selection of case studies chosen by the evaluated institutions, to bring out the institutional and territorial specificities, to value the best practices
  
  ➔ Work in progress
Submitted case studies

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Number</th>
<th>Case studies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities</td>
<td>98</td>
<td>460</td>
<td>68,05</td>
</tr>
<tr>
<td>EPR</td>
<td>14</td>
<td>159</td>
<td>23,52</td>
</tr>
<tr>
<td>Voluntary</td>
<td>22</td>
<td>57</td>
<td>8,43</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>134</strong></td>
<td><strong>676</strong></td>
<td><strong>100,00</strong></td>
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## Distribution of case studies into the 10 fields of action

<table>
<thead>
<tr>
<th>Fields of action</th>
<th>Total submitted case studies</th>
<th>% on total submitted case studies</th>
</tr>
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<tbody>
<tr>
<td>a. Intellectual and industrial property valorisation</td>
<td>40</td>
<td>5,92</td>
</tr>
<tr>
<td>b. Academic entrepreneurship</td>
<td>53</td>
<td>7,84</td>
</tr>
<tr>
<td>c. Technology transfer structures and other Third mission intermediaries</td>
<td>75</td>
<td>11,09</td>
</tr>
<tr>
<td>d. Production and management of artistic and cultural heritage</td>
<td>57</td>
<td>8,43</td>
</tr>
<tr>
<td>e. Clinical experimentations and health protection</td>
<td>55</td>
<td>8,14</td>
</tr>
<tr>
<td>f. Lifelong learning and open education</td>
<td>49</td>
<td>7,25</td>
</tr>
<tr>
<td>g. Public Engagement, defined as non-profit institutional activities with educational, cultural and social value</td>
<td>222</td>
<td>32,84</td>
</tr>
<tr>
<td>h. Production of public goods and policy instruments for inclusion</td>
<td>66</td>
<td>9,76</td>
</tr>
<tr>
<td>i. Innovative tools to support Open Science</td>
<td>8</td>
<td>1,18</td>
</tr>
<tr>
<td>j. Activities related to the UN 2030 Agenda for Sustainable Development Goals and SDGs</td>
<td>51</td>
<td>7,54</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>676</strong></td>
<td><strong>100,00</strong></td>
</tr>
</tbody>
</table>
Fields of action by institution type

- **a. Intellectual and industrial property valorisation**
  - Research organization %: 2.8
  - University %: 12.5

- **b. Academic entrepreneurship**
  - Research organization %: 6.9
  - University %: 8.3

- **c. Technology transfer structures and Third mission intermediaries**
  - Research organization %: 6.9
  - University %: 7.4

- **d. Production of public goods and policy instruments for inclusion**
  - Research organization %: 5.6
  - University %: 11.7

- **e. Clinical experimentations and health protection**
  - Research organization %: 4.6
  - University %: 9.8

- **f. Lifelong learning and open education**
  - Research organization %: 4.6
  - University %: 9.1

- **g. Public Engagement**
  - Research organization %: 2.3
  - University %: 11.3

- **i. Innovative tools to support Open Science**
  - Research organization %: 0.4
  - University %: 2.3

- **j. 2030 Agenda for Sustainable Development Goals and SDGs**
  - Research organization %: 4.6
  - University %: 9.1
Case studies submitted by Institution or Department(s)

- 1 Department: 48.7%
- 2 or more Departments: 8.7%
- Institution: 42.6%
Fields of action by geographic area

### South and Islands (%)
- a. Intellectual and industrial property valorisation: 2.19
- b. Academic entrepreneurship: 11.68
- c. Technology transfer structures and Third mission intermediaries: 10.22
- d. Production and management of artistic and cultural heritage: 15.33
- e. Clinical experimentation and health protection: 10.22
- f. Lifelong learning and open education: 6.57
- g. Public Engagement: 21.90
- h. Production of public goods and policy instruments for inclusion: 13.87
- i. Innovative tools to support Open Science: 8.03

### Center (%)
- a. Intellectual and industrial property valorisation: 3.01
- b. Academic entrepreneurship: 5.26
- c. Technology transfer structures and Third mission intermediaries: 9.02
- d. Production and management of artistic and cultural heritage: 9.77
- e. Clinical experimentation and health protection: 8.27
- f. Lifelong learning and open education: 9.77
- g. Public Engagement: 30.83
- h. Production of public goods and policy instruments for inclusion: 12.03
- i. Innovative tools to support Open Science: 11.28

### North (%)
- a. Intellectual and industrial property valorisation: 3.16
- b. Academic entrepreneurship: 7.89
- c. Technology transfer structures and Third mission intermediaries: 13.16
- d. Production and management of artistic and cultural heritage: 9.47
- e. Clinical experimentation and health protection: 10.53
- f. Lifelong learning and open education: 6.32
- g. Public Engagement: 30.53
- h. Production of public goods and policy instruments for inclusion: 10.00
- i. Innovative tools to support Open Science: 8.42

Legend:
- A. Intellectual and industrial property valorisation
- B. Academic entrepreneurship
- C. Technology transfer structures and Third mission intermediaries
- D. Production and management of artistic and cultural heritage
- E. Clinical experimentation and health protection
- F. Lifelong learning and open education
- G. Public Engagement
- H. Production of public goods and policy instruments for inclusion
- I. Innovative tools to support Open Science
- J. 2030 Agenda for Sustainable Development Goals and SDGs.
3. Procedure
Informed peer review vs. Pure Peer review

- VQR 2015-19 was based on the methodology of informed peer review
- The citation information used was provided by ANVUR, differentiated according to the characteristics of the area and the sector.

(STEM+LS in red, HSS in blue, Economy in green)

Area 1 Mathematics and Computer Sciences
Area 2 Physics
Area 3 Chemistry
Area 4 Earth Sciences
Area 5 Biology
Area 6 Medicine
Area 7 Agricultural and veterinary sciences
Area 8a Architecture
Area 8b Civil Engineering
Area 9 Industrial and Information Engineering
Area 10 Ancient History, Philology, Literature and Art History
Area 11a History, Philosophy, Pedagogy
Area 11b Psichology
Area 12 Law
Area 13a Economics and Statistics
Area 13b Economics and Management
Area 14 Political and Social Sciences
Interdisciplinary Impact/Third mission
VQR 2015-2019: evaluation method

• Evaluation criteria
  – Research outputs:
    ▪ Originality;
    ▪ Methodological rigour;
    ▪ Impact
  – Case Studies:
    ▪ Social, economic and cultural dimension of the impact;
    ▪ Relevance in relation to the context;
    ▪ Added value for the beneficiaries;
    ▪ Contribution of the department or similar structure.

• Each research output / case study may be categorised as:
  A. Excellent and extremely relevant (score 1)
  B. Excellent (score 0.8)
  C. Standard (score 0.5)
  D. Sufficient significance (score 0.2)
  E. Low significance or Not admissible* (score 0)

*publications excluded from the assessment. Missing research products are also included in category E.
VQR 2015-2019 – Evaluation Process

First step: two independent evaluation
- 1st GEV member
- 2nd GEV member
  - External reviewer or own review

Second step: one shared evaluation
- First and Second GEV members agree on the final evaluation
- Yes
  - Allocation to one of the five classes
- No
  - Consensus group

GEV final approval

WoS and/or Scopus citation metrics to support evaluation

STEM panels (+ Economics)
4. Impact
Definition of impact

- In the VQR decree there was not a strictly closed definition of **impact** to give the possibility to each Institution to highlight those TM activities that had a greater impact.
- Impact should have emerged as the difference between the situation before and after the development of the activities.
- Impact was supposed to take place in the period 2015-2019.
It was intended the transformation or the improvement generated for economy, society, culture, health, environment (also in relation to the results obtained by the research products presented by the Institution) or, more in general,

combating economic, social and territorial inequalities in order to increase the quality of life in a territorial context (local, regional, national, European or international);

the reduction or prevention of damage, risks, or other negative externalities; priority was given to assessing the impact generated outside (but also any spillover effects within the institutions).
Impact and Third Mission

Possible criticalities (Ben Martin, U. Sussex, 2007):

a) **Causality**: the cause-effect link between the research and the outcome is not always clear.

b) **Attribution**: There is not always a direct correspondence between research activity and the impact generated; the impact may be diffuse, complex and it may not be clear what part of the impact should be attributed to a given research.

c) **Internationality**: the most innovative activities are intrinsically international and consequently it is difficult to attribute the impact of a given research to a local or national context.

d) **Timing of the assessment**: the time window can vary enormously and is difficult to predict.
Impact and Third Mission
6. Conclusions
Third Mission: conclusions

• Scientific institutions become the leading actors of their region and offer their knowledge to the whole community.
• TM activities open to the involvement with the outside world in the process of research and innovation.
• The fields of action, albeit with different degrees, were all covered.
• Universities have diversified their case studies more than the research institutions.
• It is necessary to start thinking about some fields of action (in particular public engagement).
Third Mission: conclusions


• Commitment to public opinion

• «Researchers should ensure that their research activities are made known to society at large in such a way that they can be understood by non-specialists, thereby improving the public’s understanding of science. Direct engagement with the public will help researchers to better understand public interest in priorities for science and technology and also the public’s concern».  
  https://eur-lex.europa.eu/legal-content/IT/TXT/?uri=CELEX%3A32005H0251
Thank you for your attention