



PLOTINA

Promoting gender balance and inclusion
in research, innovation and training

**Promoting gender balance and inclusion in research,
innovation and training
PLOTINA
(Horizon 2020 – GA: 666008)**

Project Coordinator:
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The topic: Specific Challenge

TOPIC: GERI.4.2014-2015 - Support To Research Organisations To Implement Gender Equality Plans

- Gender equality is a key priority of the ERA (European Research Area) Communication. "A Reinforced European Research Area: Partnership for Excellence and Growth", which invites Member States, research performing organisations (RPOs), including Higher Education Institutions, as well as research funding organisations (RFOs) to take action to **promote gender equality** in R&I with the following objectives:
 - Removing barriers to the **recruitment, retention and career progression** of female researchers
 - Addressing **gender imbalances in decision making** processes
 - Strengthening the **gender dimension in research** programmes

What is needed to develop a gender equality plan in my Institution (RPO)?

- Role of the proponent
- Achievement of a competitive result (reputation within the Institution)
- Budget
- Involvement of key actors
- Method (coaching association, now GEAR)
- An international process (other RPOs carrying on the same path, with the same timing)
- At least one Institution with our numbers (Students, Researchers, Disciplines)

The topic: Scope (1)

- The action provides support to RPOs and RFOs in order to **support systemic institutional changes**, in particular through the implementation of Gender Equality Plans (GEPs). GEPs shall:

INCLUDED IN
THE PROPOSAL

WE ARE HERE NOW.
CONCLUDING AND ELABORATING
THE AUDIT

- Conduct **impact assessment / audit of procedures and practices**, including relevant data on HR management, teaching and research activities, in order to identify gender bias at organisation level;
- **Implement innovative strategies** to address gender bias (family-friendly policies, gender planning and budgeting, training on gender equality in HR management, develop the gender dimension in research content and programmes; integrating gender studies in Higher Education Institution curricula);
- **Set targets and monitor progress** via indicators at organisation level.

The topic: Scope (2)

- ✓ The RPOs, including Higher Education Institutions, and RFOs involved in the consortium shall be at a **starting stage in the setting-up of GEPs** and shall ensure the **support from their highest management level**. Participation of **professional associations** in the consortium is recommended.
- ✓ The proposals shall include a **first assessment of gender issues in each partner organisation**. They shall also situate the planned GEPs in relation with existing national provisions relating to gender equality in research (...).
- ✓ The proposals shall include a **methodology for impartially monitoring and assessing the progress made throughout the duration of the project**. This activity could be dedicated to a specific partner organisation or subcontracted. This action will be further promoted through the EURAXESS initiative SEAC.3.2014.

The topic: Expected Impacts

- The activities will **increase the number of RPOs and RFOs implementing GEPs** pursuing the three objectives mentioned in the challenge. In the medium / to long term, activities will contribute to the achievement of ERA in particular by **increasing the number of female researchers, improving their careers and mobility**, thus contributing to research intensity. The integration of the gender dimension in research programmes and content will improve the **social value of innovations** and the fitness for purpose of innovative products

TYPE OF ACTION: Coordination and Support Action

PLOTINA: overall objective

- To enable the **development, implementation and assessment of self-tailored Gender Equality Plans (GEPs)** with innovative and sustainable strategies for the Research Performing Organizations (RPOs) involved.
- This objective is based on the vision to **foster excellence and the social value of innovations**, by:
 - stimulating a **gender-aware cultural change**;
 - promoting **career-development of both female and male researchers to prevent the waste of talent**, particularly for women;
 - ensuring **diversification of views and methodologies** (in this case by taking into account the **gender/sex dimension** and analysis) **in research and teaching**.

SIMPLE, ADAPTABLE AND VIRAL

Specific objectives

- Designing and implementing **self-tailored GEPs, Libraries of Actions and Good Practices** for six European RPOs (same mission, different dimension) to be used also as role models for other institutions;
- Creating new **Case studies of gendered research** and teaching;
- Wide **disseminating the results and tools** developed to foster other RPOs to follow.

PLOTINA - CASE STUDY UNIBO - GENDERED INNOVATIONS 2.0*	
TOPIC:	Food and Nutrition
TITLE:	Analysing beef eating and sex-related substances in meat: a problem of authentication
THE CHALLENGE:	Beef eating is a timely issue, dealing with food authentication (15 papers reported by Europe from 2007 to 2014), because male beef is considered to be of higher quality than cow or heifer meat. This might produce different prices and a temptation to mislabel beef or to offer cow/sheep beef meat, representing a fraud and damaging the consumer. For this reason, it is important to have robust, reliable, repeat and simple methods, to be applied routinely, for determining the gender of beef meat (Zotter et al., 2010). Sexual hormones are substances that are naturally occurring in animals, related with their sex. But they can be also synthetically produced and administered to the animals, even if banned in the European Union, to increase the animals' growth rate, the lean meat and to reduce their fat content (Lowe et al., 1992). Moreover, hormones may have an impact on the nutritional and healthiness properties of beef and their sensory attributes (taste/smell, juiciness and overall quality), e.g. due to a reduced marbling and advanced skeletal or lean maturity. For all these reasons, and considering that the daily intake of sexual hormones can be very relevant for the human health (creating differences based on gender), it is important being to having and then to develop new methods, fast and highly sensitive analytical methods for beef eating, alternative to the polymerase chain reaction (PCR)-based techniques (Gómez et al., 2014), useful also to verify the administration of sex-related substances. A detailed study of the sensory differences on beef would clear the differences produced by animal sex and sexual hormone administration. ...
METHOD:	* - Analyzing sex, sexual hormones and related sensory attributes in meat PCR is by far the most widely used methodology for meat sexing due to its moderate cost and short analysis time (Gómez et al., 2013). However, to have a complementary vision and in order to avoid possible false negatives, various more sophisticated methods combined with gas chromatography or liquid chromatography could be also used to measure hormones present at low levels and to define their metabolic pathways. Fast and highly sensitive

ADVERTISING EFFECTIVENESS AND
BENEFITS OF PLOTINA IN TERMS OF VISIBILITY AND
PARTNERS REPUTATION

4 ALREADY PROPOSED
NO FINANCIAL SUPPORT
WE HOPE OTHERS WILL FOLLOW

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Sex approach on lipid and cholesterol oxidation research in lamb meat

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ABSTRACT

In the present preliminary research work, 8 scanned Segureña lambs with 15.1 kg of live weight were fed on a basal diet of alfalfa with the corresponding fattening feed until they reached a live weight of 24.1 kg (30 ± 5 days). Minced meat samples from lamb thigh (about 20 g) were used to obtain hamburger patties, which were cooked on a electric hot plate until the internal temperature reached 72 °C. The content of lipid and cholesterol oxidation products (peroxide value (PV), thiobarbituric acid reactive substances (TBARS), oxysterols (COx)) was investigated as related to gender (male and female).

No significant effect was found on cholesterol, PV and TBARS content. However, a significant effect of sex on oxysterols formation was observed as related to 7-β-HC and cholesterol oxidation ratio.

Principal component analysis (PCA) was carried out to better understand the impact of gender on the variability of meat oxidation results. Male and female meat samples were more characterized by the presence of all COx, except for 7-β-HC; on the other hand, the female meat samples were more correlated to TBARS level and oxidized cholesterol ratios.

On the basis of these preliminary results, the sex variable could explain some differences in food researches; however, a deeper investigation should be carried out, to consider possible effects or interactions with feeding and its eventual antioxidant supplementation.

RESULTS

Gender	Cholesterol (mg/kg)
MALE	~2.5
FEMALE	~2.5

Gender	PV (meq/kg)
MALE	~0.1
FEMALE	~0.1

Cholesterol oxidation pathways^a

- The total content of COx ranged from 2.34 to 4.50 μg/100 g of wet weight, no significant differences were found.
- Higher data dispersion in male meat samples was detected.
- The main oxysterols were 7α-HC and 7-β-HC.
- The content of 7-β-HC was significantly higher ($p < 0.05$) in the female meat.
- The α-HC content was slightly higher ($p = 0.064$) in male meat.

- The cholesterol oxidation ratio (OR), % represents the extent of oxidized cholesterol related to the total cholesterol content.
- The OR was significantly higher ($p < 0.05$) in female meat samples than in male ones.

INTRODUCTION

Bee welfare is not widely considered as valuable issue in food research, even though the effect of sex on meat composition is sometimes reported. To food excellence and social innovation in research and project design, the inclusion of sex as a valuable could represent a key strategy.

Lipid oxidation is one of the main degradation processes that can affect the overall quality of muscle foods. However, the cell membrane contains antioxidants, which is prone to oxidation thus generating cholesterol oxidation products (COPs). COPs are largely studied since they are involved in lipid metabolism, various chronic and degenerative diseases.¹

The aim of this preliminary study is to evaluate if the sex variable affects or not lipid and cholesterol oxidation in lamb meat.

METHODS

In the present preliminary research work, 8 scanned Segureña lambs (4 animals for sex) with 15.1 kg of live weight were fed on a basal diet of alfalfa with the corresponding fattening feed until they reached a live weight of 24.1 kg (30 ± 8 days).

Minced meat samples from lamb thigh (about 20 g) were used to obtain hamburger patties, which were cooked on a electric hot plate until the internal temperature reached 72 °C.

The content of lipid, sterols and oxidation products (peroxide value (PV), thiobarbituric acid reactive substances (TBARS), oxysterols (COx)) was investigated as related to sex (male and female).

Component	Initial Elevations			Total Variance Explained		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.841	25.229	25.229	5.841	25.229	25.229
2	1.027	4.559	29.788	1.027	4.559	29.788
3	0.699	3.111	32.899	0.699	3.111	32.899
4	0.399	1.755	34.654	0.399	1.755	34.654
5	0.359	1.582	36.236	0.359	1.582	36.236
6	0.319	1.411	37.647	0.319	1.411	37.647
7	0.279	1.240	38.887	0.279	1.240	38.887
8	0.239	1.069	39.956	0.239	1.069	39.956
9	0.199	0.898	40.854	0.199	0.898	40.854
10	0.159	0.727	41.581	0.159	0.727	41.581
11	0.119	0.556	42.137	0.119	0.556	42.137
12	0.079	0.385	42.522	0.079	0.385	42.522
13	0.039	0.214	42.736	0.039	0.214	42.736
14	0.039	0.214	42.950	0.039	0.214	42.950
15	0.039	0.214	43.164	0.039	0.214	43.164
16	0.039	0.214	43.378	0.039	0.214	43.378
17	0.039	0.214	43.592	0.039	0.214	43.592
18	0.039	0.214	43.806	0.039	0.214	43.806
19	0.039	0.214	44.020	0.039		

Sex analysis is not widely considered as variable into food research. For a most targeted results and to avoid approximation in research and project design, the inclusion of sex as a variable could represent a key strategy.

On the basis of these preliminary results, **the sex variable could explain some differences in food science research.**



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Overall strategy

1. Focus on Women: increasing the participation of women in science and engineering by supporting them with training and career development.
2. Focus on Institutions: structural and cultural change in institutions.
3. Focus on Knowledge: integrating sex and gender analysis into research, fostering excellence and social innovation.

- ✓ PLOTINA proposes an **holistic strategy to increase the representation of women in academia and foster a supportive environment where men and women can thrive** and conduct excellent research, which may itself have a gender/sex dimension.
- ✓ PLOTINA will contribute to make research activity in Europe more competitive on the world scene, by **creating cultures that value and benefit from the diversity in the workplace.**

Consortium & roles

RPOs

Participant N.	Participant organisation name	Country
1 (Coordinator)	Alma Mater Studiorum – Università di Bologna (UNIBO)	ITALY
2	University of Warwick (WARWICK)	UNITED KINGDOM
3	National Institute of Chemistry (NIC)	SLOVENIA
4	School of Economics and Management (ISEG)	PORTUGAL
5	Mondragon University (MU)	SPAIN
6	Ozyegin University (OZU)	TURKEY
7	Center for Social Innovation (ZSI)	AUSTRIA
8	Jump Forum SPRL (JUMP)	BELGIUM
9	Progetto Donna (PD)	ITALY
10	Elhuyar Foundation (ELHUYAR)	SPAIN

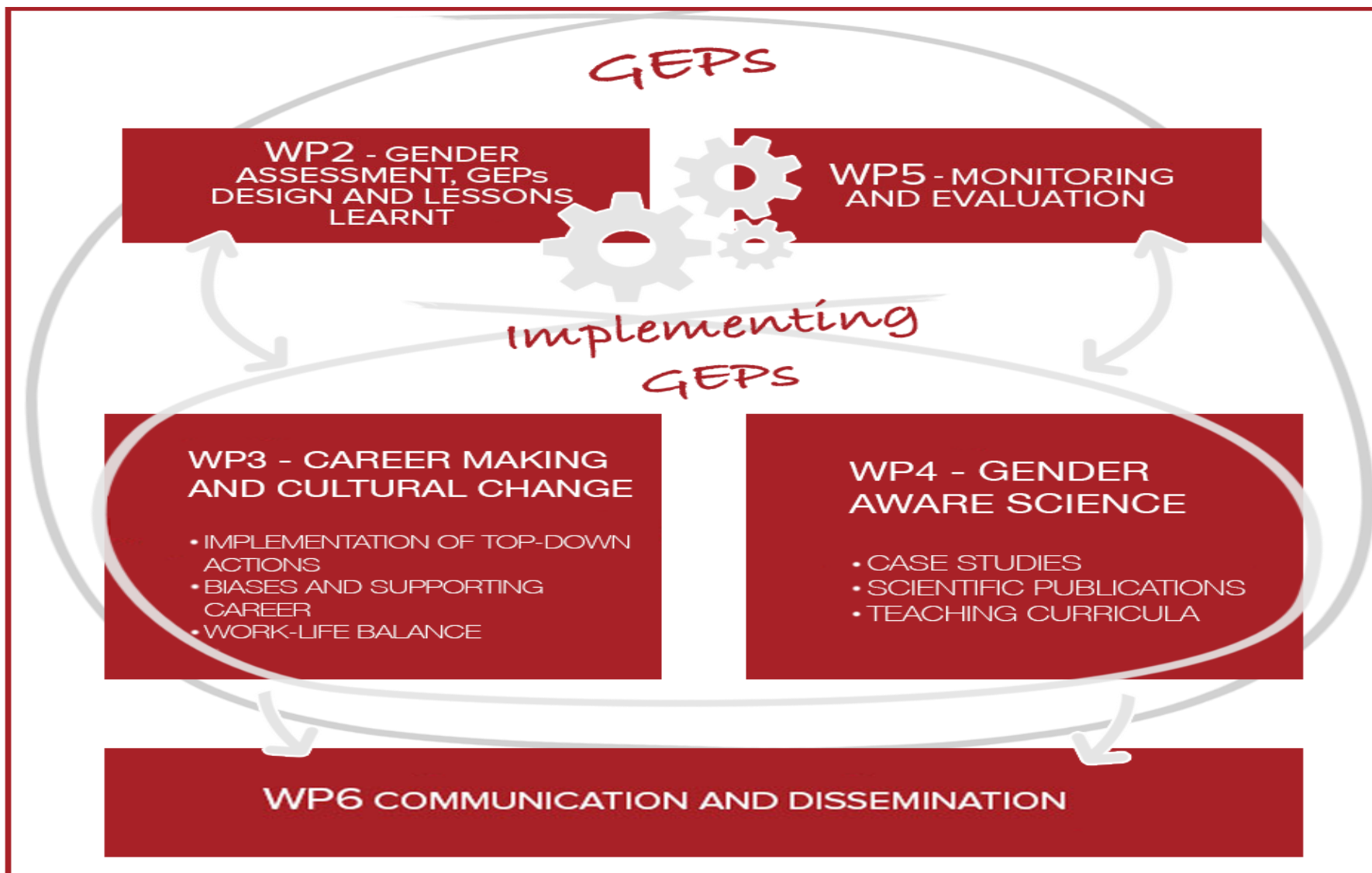
EVALUATION & MONITORING

DISSEMINATION

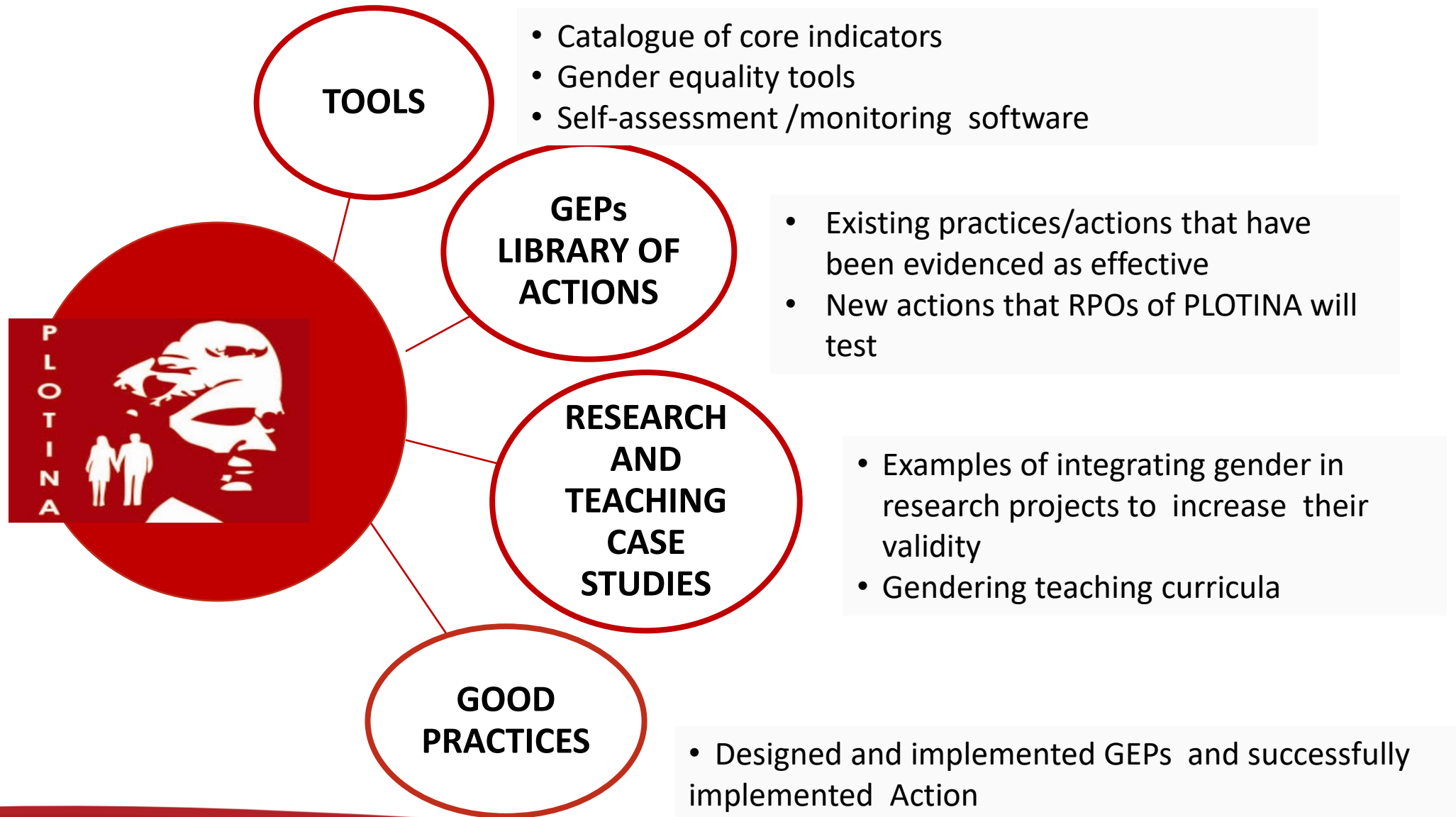
**PROFESSIONAL
ASSOCIATIONS**

PLOTINA workpackages: PERT diagram

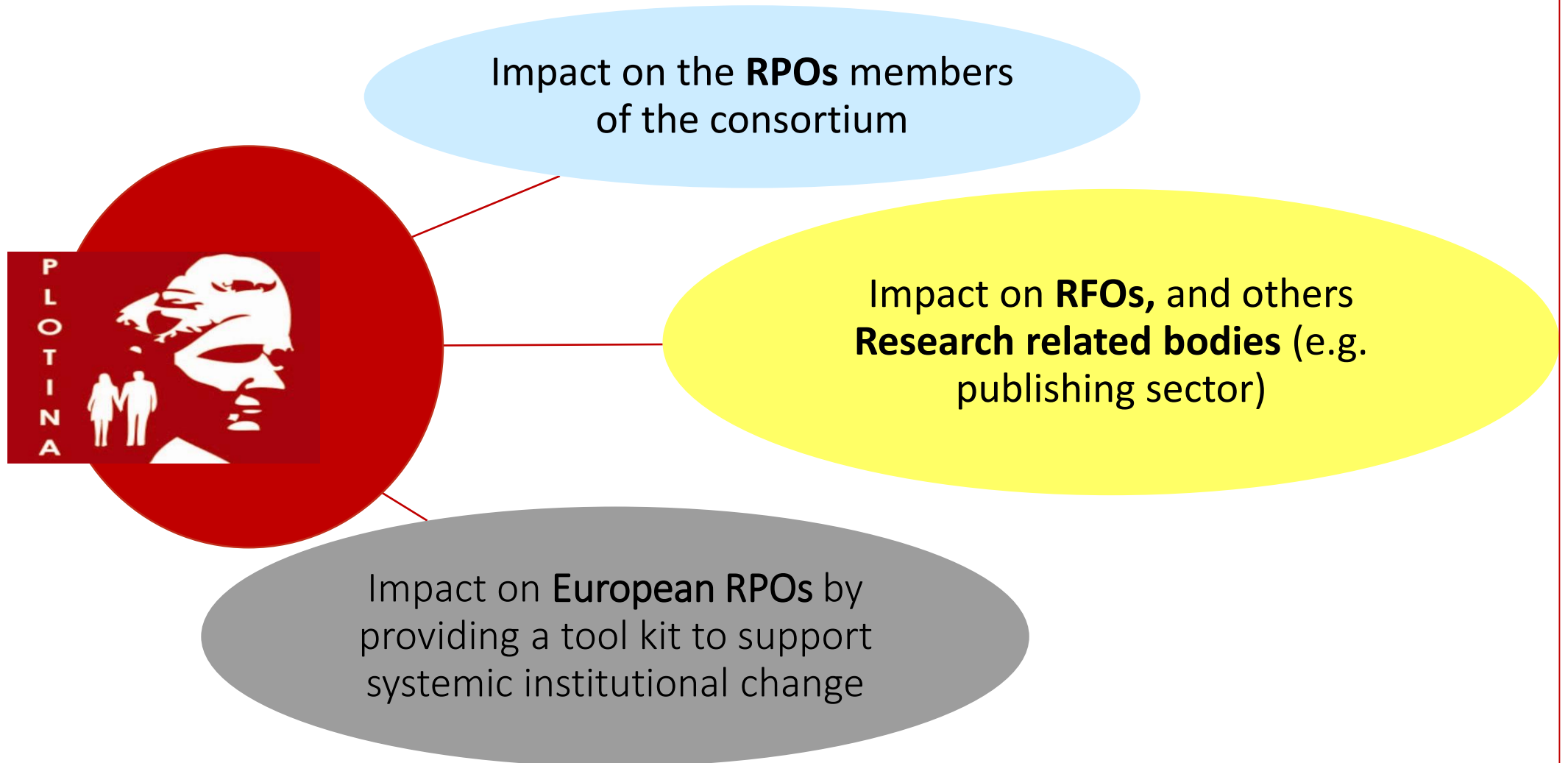
WP1 Project management



Expected outputs



Expected impacts





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Thank you
for your attention

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