EUROPEAN FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

Specific Programme Implementing Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020)

Maria da Graça Carvalho

Poland

- ➤ **Multipolar world in research and innovation**

- ➤ **Horizonte 2020 – the 3 pilars**

- ➤ **Horizontal issues**
  - **Simplification, Synergies with Structural Funds, Widening participation, Youth employment, other relevant aspects**

- ➤ **Next steps**

- ➤ **Conclusions**

MULTIPOLAR WORLD IN RESEARCH AND INNOVATION

Multipolar world in research and innovation

- Multipolar world in all sectors ans also in science

- 80% of *researchers* work outside Europe

- 69% of patent applications are made outside Europe

- 75% of GERD is executed in other parts of the world (Gross Expenditure on Research and Development)

- EU`s world share in GERD has diminished by 7.6% over the previous 6 years

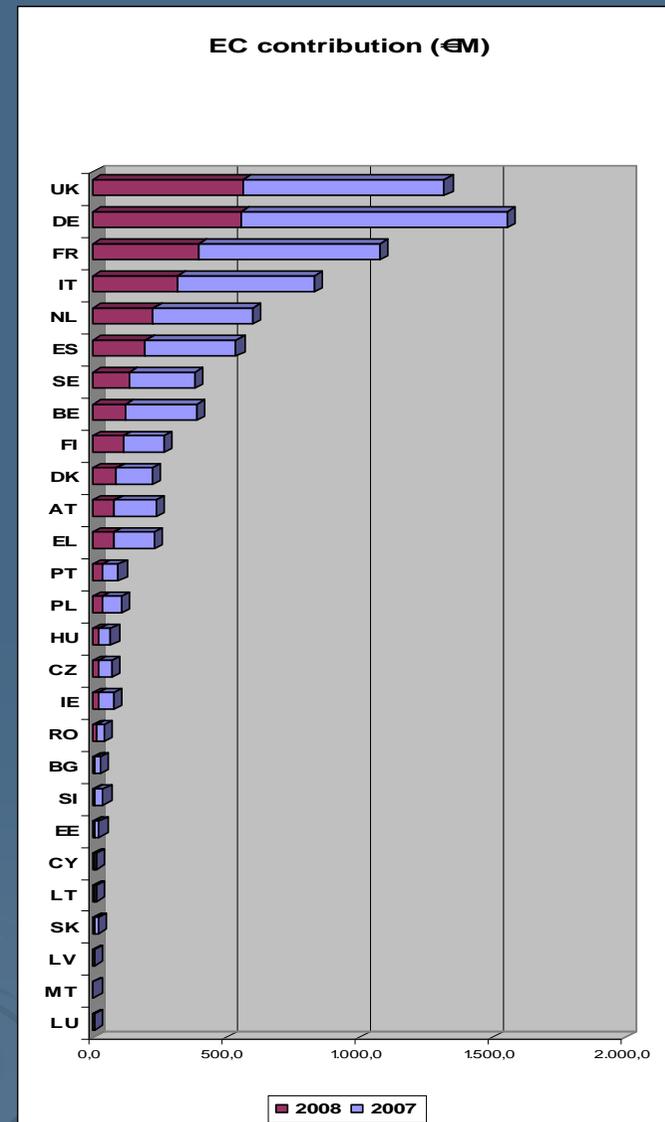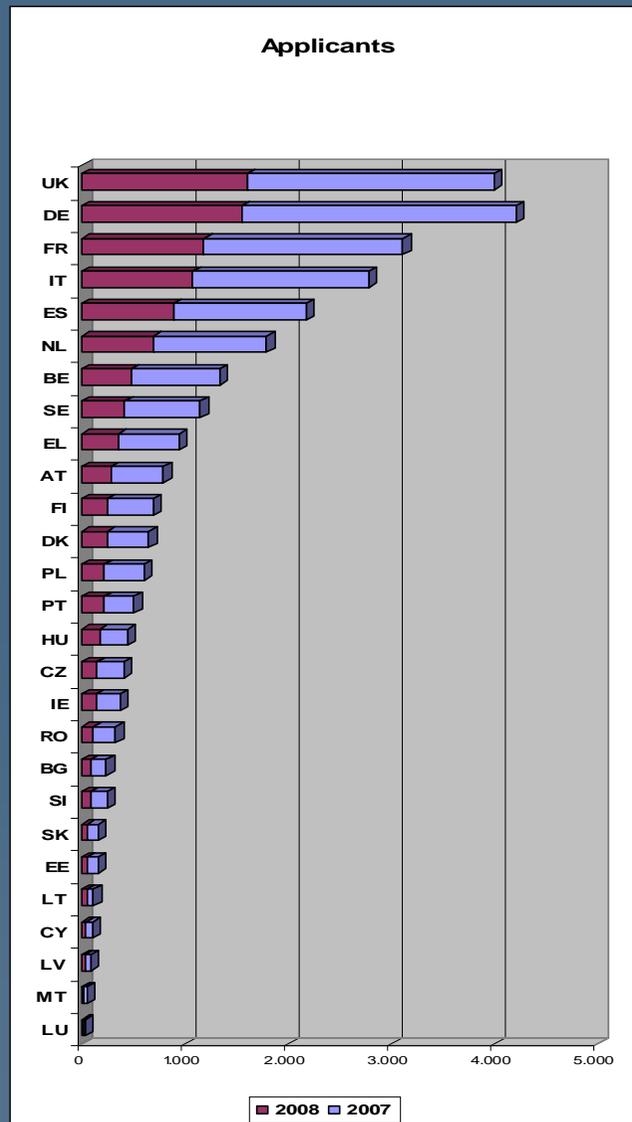- EU`s world share of patent application has declined 14.2% over the previous 6 years

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- ➢ **EU-27 is the largest producer of scientific publications in the world (EU 37% US 31%).**

- ➢ **However the EU contributes less than the US to high impact publications (US 1.45% EU 0.97% - contribution to the 10% most cited publications)**

- ➢ **China`s share of world scientific publications has more than doubled within six years and is now larger than that of the Japanese**

7th Framework-Programme

➢ *Framework Programme for Research, Technological Development and Demonstration*

➢ Budget *52.000 M€* 2007-2013

➢ Enormous strategic importance for the development of *innovation*, *competitiveness* and therefore *employment* of the European area

➢ **Under investment in science and research**

➢ **Unsatisfactory framework conditions**

➢ **Fragmentation and excessive bureaucracy and red tape**

➢ **Europe has world leading researchers, entrepreneurs and companies**

➢ **A set of deeply embedded values and traditions, a dynamic culture of creativity and diversity**

➢ **The largest internal market in the world**

➢ **A society actively engaged in emerging and developing countries across the globe**

HORIZON 2020

"8th Framework-Programme" *for Research, Technological Development, Demonstration and Innovation*
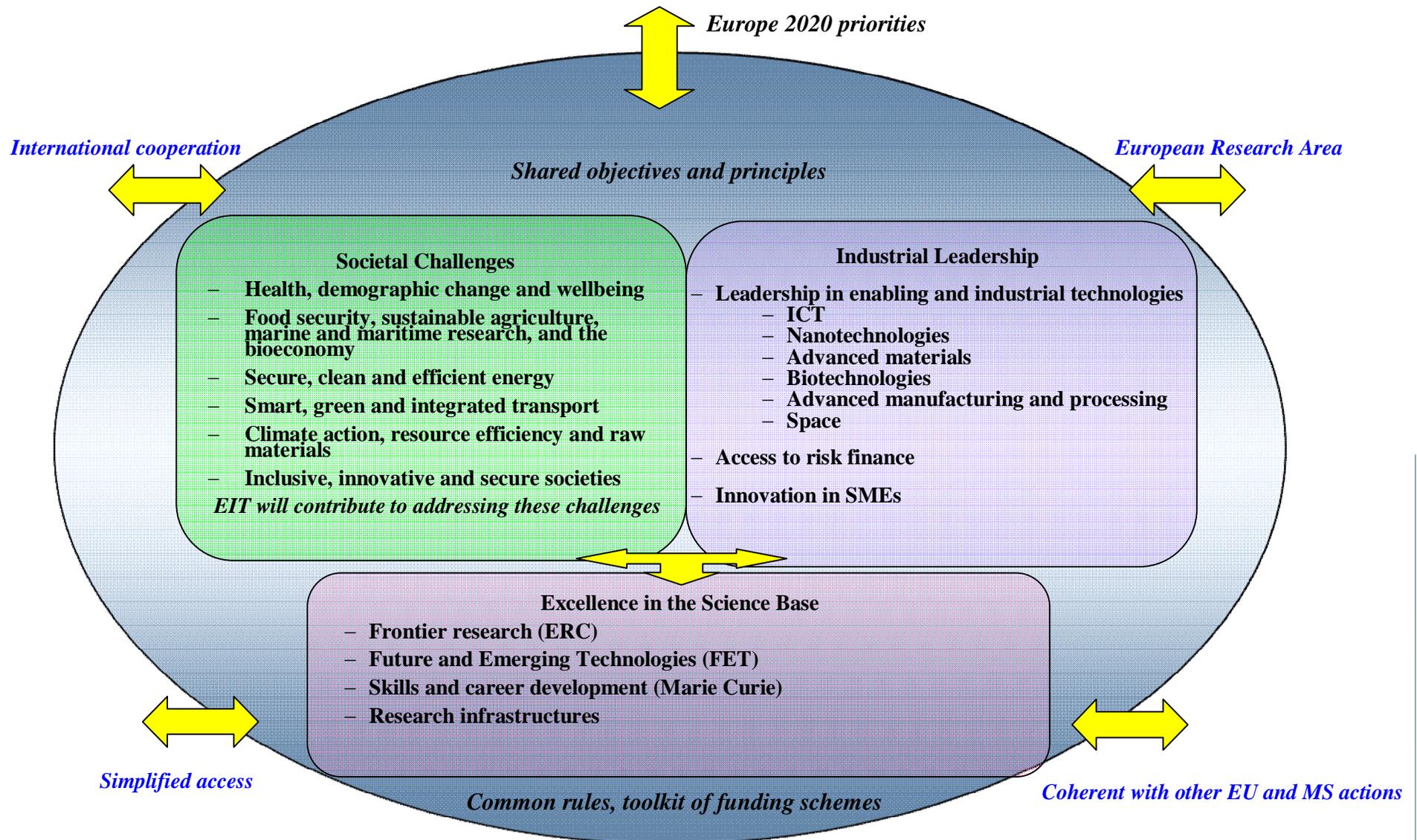
5 key principles:

1. **A Trust based funding system**

2. **Excellence based criteria "*Stairway to Excellence*"**

3. **A chain from frontier research, to technological development, demonstration, valorisation of results and innovation**

4. **Synergies with Structural Funds for capacity building**

5. **Employment of young scientists**

➢ **European Parliament proposed doubling of the budget (52.000M€ to 100.000M€)**

➢ **European Comission proposed 87.740M€**

➢ **Final budget depending on negotiations between Parliament, Council and Commission**

Horizon 2020
Three Pilares

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Europe 2020 priorities

International cooperation

European Research Area

Shared objectives and principles

Societal Challenges
- Health, demographic change and wellbeing
- Food security, sustainable agriculture, marine and maritime research, and the bioeconomy
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, resource efficiency and raw materials
- Inclusive, innovative and secure societies

EIT will contribute to addressing these challenges

Industrial Leadership
- Leadership in enabling and industrial technologies
  - ICT
  - Nanotechnologies
  - Advanced materials
  - Biotechnologies
  - Advanced manufacturing and processing
  - Space
- Access to risk finance
- Innovation in SMEs

Excellence in the Science Base
- Frontier research (ERC)
- Future and Emerging Technologies (FET)
- Skills and career development (Marie Curie)
- Research infrastructures

Simplified access

Common rules, toolkit of funding schemes

Coherent with other EU and MS actions

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➤ **Excellent science proposed funding (million euro, 2014-20)**

European Research Council	**13.268**
Future and Emerging Technologies	**3.100**
Marie Curie Actions	**5.572**
Research Infrastructures	**2.478**
Spreading Excellence and Widening Participation (new)	

➢ Increase the number of ERC "*synergy grants*"

➢ Increase the funding of Marie Curie actions

➢ Extend the FET instrument to FEST

Recommendations Excellent science

- **_New suggestion from the Parliament_**

  Spreading Excellence and Widening Participation:

➢ Twinning and networking measures

➢ Building synergies with Structural Funds

Spreading Excellence and Widening Participation
Twinning and networking measures

➢ Linking in a competition emerging institutions and centres of excellence in less developed or less experienced regions to leading international counterparts elsewhere in Europe

➢ Launching a competition for the foundation of internationally competitive research centres in cohesion regions: the candidates for the competition should be teams each comprising an innovative but still less developed region and an internationally recognised centre of excellence elsewhere in Europe

➢ Establishing 'ERA Chairs' to attract outstanding academics to institutions with a clear potential for research excellence, in order to help these institutions fully unlock this potential and thereby create a level playing field for research and innovation in the European Research Area

Spreading Excellence and Widening Participation
Twinning and networking measures

➢ Attribution of "Return Grants" to excellent researchers currently working outside of Europe and who wish to work in Europe or to researchers already working in Europe who wish to move to a less performing region

➢ Support complementary agreements signed among organisations beneficiaries of the collaborative research projects with other entities with the objective of facilitating training opportunities (namely doctoral and post-doctoral positions)

➢ Making available doctoral and postdoctoral fellowships, as well as advanced training fellowships for engineers for accessing all international research infrastructures in Europe, including those managed by international scientific organisations

Spreading Excellence and Widening Participation
Twinning and networking measures

➢ Strengthening successful networks aiming at establishing high quality institutional networking in research and innovation. Particular attention will be paid to COST in order to promote activities to identify and connect "pockets of excellence"

➢ Developing specific training mechanisms on how to participate in Horizon 2020, taking full advantage of existing networks such as the National Contact Points

➢ Setting up an online marketplace where intellectual property can be advertised in order to bring together the owners and users of IPR

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Spreading Excellence and Widening Participation
Building synergies with Structural Funds

➢ Conferring a "seal of excellence" on positively evaluated ERC, Marie Sklodowska-Curie or collaborative project proposals that have not been able to achieve funding because of budgetary limitations. National and regional funds might thus be used to contribute to the funding of those projects

➢ Conferring a "seal of excellence" to completed projects in order to facilitate funding of the follow up (e.g. pilot scale, demonstration projects or valorisation of research results) by national, regional or private sources

➢ Supporting the development and monitoring of smart specialisation strategies. A policy support facility will be developed and policy learning at regional level will be facilitated through international evaluation by peers and best practice sharing

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Industrial leadership proposed funding (million euro, 2014-20)

Leadership in enabling and industrial technologies (ICT, nanotechnologies, materials, biotechnology, manufacturing, space)	**13.781**
Access to risk finance	**3.538**
Innovation in SMEs	**619**

➢ To improve definition of: *demonstration*, *pilot actions*, *technological deployment*, *flagship projects*

➢ To take into account the circumstances of different sectors when defining the target of 15% for SMEs

➢ To develop a mechanism that is at once simpler, faster and more efficient: "inovgation vouchers"

➢ To foster innovation by introducing "pre-comercial procurement"

➢ To ease access to loans, guarantees and other form of risk finance

➢ To build standardisation into technological development projects

Societal challenges proposed funding (million euro, 2014-20)

Health, demographic change and wellbeing	8.033
Food security, sustainable agriculture, marine and maritime research & the bioeconomy	4.152
Secure, clean and efficient energy	5.782
Smart, green and integrated transports	6.802
Climate action, resource efficiency and raw materials	3.160
Inclusive, innovative and secure societies	3.819

1. HEALTH, DEMOGRAPHIC CHANGE AND WELLBEING

1.1. Understanding the determinants of health, improving health promotion and disease prevention

1.2. Developing effective screening programmes and improving the assessment of disease susceptibility

1.3. Improving surveillance and preparedness

1.4. Understanding disease

1.5. Developing better preventive vaccines

1.6. Improving diagnosis

1.7. Using in-silico medicine for improving disease management and prediction

1.8. Treating disease

1. HEALTH, DEMOGRAPHIC CHANGE AND WELLBEING

1.9. Transferring knowledge to clinical practice and scalable innovation actions

1.10. Better use of health data

1.11. Improving scientific tools and methods to support policy making and regulatory needs

1.12. Active ageing, independent and assisted living

1.13. Individual empowerment for self-management of health

1.14. Promoting integrated care

1.15. Optimising the efficiency and effectiveness of healthcare systems and reducing inequalities through evidence based decision making and dissemination of best practice, and innovative technologies and approaches

2. FOOD SECURITY, SUSTAINABLE AGRICULTURE, MARINE AND MARITIME RESEARCH AND THE BIO-ECONOMY

2.1. Sustainable agriculture and forestry

2.2. Sustainable and competitive agri-food sector for a safe and healthy diet

2.3. Unlocking the potential of aquatic living resources

2.4. Sustainable and competitive bio-based industries

3. SECURE, CLEAN AND EFFICIENT ENERGY

3.1. Reducing energy consumption and carbon footprint through smart and sustainable usage

3.2. Low-cost, low-carbon electricity supply

3.3. Alternative fuels and mobile energy sources

3.4. A single, smart European electricity grid

3.5. New knowledge and technologies

3.6. Robust decision making and public engagement

3.7. Market uptake of energy innovation, empowering markets and consumers

4. SMART, GREEN AND INTEGRATED TRANSPORT

4.1. Resource efficient transport that respects the environment

4.2. Better mobility, less congestion, more safety and security

4.3. Global leadership for the European transport industry

4.4. Socio-economic research and forward looking activities for policy making

5. CLIMATE ACTION, RESOURCE EFFICIENCY AND RAW MATERIALS

5.1. Fighting and adapting to climate change

5.2. Sustainably managing natural resources and ecosystems

5.3. Ensuring the sustainable supply of non-energy and non-agricultural raw

5.4. Enabling the transition towards a green economy through eco-innovation

5.5. Developing comprehensive and sustained global environmental observation and information systems

6. INCLUSIVE, INNOVATIVE AND SECURE SOCIETIES

6.1. Inclusive societies

6.2. Innovative societies

6.3. Secure societies

Recommendations Societal Challenges

➤ Pilot Platform for the promotion of best practices, sharing information and networking among researchers with projects in different inniciatives (eg. JTIs, PPPs, ERC and Industrial Leadership and Societal Challenges pilars)

➤ To split "inclusive, innovative and secure societies" into two challenges

SIMPLIFICATION

➢ **It is necessary to simplify the mechanisms of European financing programmes of research and innovation**

➢ **2 approaches:**

1. **Simplification of financing and administrative aspects of project financing**

2. **Reinforcement of the technical and scientific evaluating process**

- A single set of simpler participation rules

- Simpler funding rates

- Easier access to applications

- Simple evaluation criteria

- Simpler rules for grants

- Simpler rules

- Fewer, better targeted controls and audits

Simplification
Rules for participation

➢ **VAT considered an eligible cost for institutions that cannot recover it from their own state fiscal systems**

➢ **Direct costs will be reimbursed at a 100 percent**

➢ **New rules to facilitate the recruitment of young researchers to universities**

➢ **No time-sheets for personnel working full time on a project**

➢ **A single set of rules for all instruments of H2020**

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> ➤ **Upstream from Horizon 2020 the structural funds can finance:**

- **equipment, human resource development, the creation of clusters in the priority areas of Horizon 2020 and as a source of small grants given for the preparation of proposals to be submitted to Horizon 2020**

- **ERC, Marie Curie or collaborative projects that meet the criteria of excellence but cannot be funded due to lack of European funds**

➢ **Downstream from Horizon 2020 the structural funds can finance :**

- **or co-finance the follow up to Horizon 2020 research projects (e.g. pilot scale and demonstration projects);**

- **to valorise research results in such a way as to encourage easy access to knowledge or to facilitate the deployment of the resulting knowledge in terms of its direct economic or societal use**

➢ **Increase employment for young scientists**

➢ **Deployment of rules to facilitate the recruitment of young people in universities**

➢ **Balance between small focused projects and large integrative projects**

➢ *Sound governance at all levels: at comitology level in the Programme Committees but also at the overall level of a Horizon 2020 Advisory Group* and coordination with *stakeholders*

➢ **Strong international cooperation in strategically defined priorities with key international partners,**

NEXT STEPS

Ongoing: Negotiations on EU budget 2014-20
        (including overall budget for Horizon 2020)

28/11: Parliament votes in ITRE Committee H2020 "package"

Jan/2013: Start of the negotiations on Horizon 2020

Mid 2012: Final calls under 7th Framework Programme

Mid 2013: Adoption of legislative acts by Parliament and Council on
        Horizon 2020

2014: Horizon 2020 starts

CONCLUSIONS

Conclusions

- **Funding programme well structured and accessible for all**

- **Efficient and appropriate funding mechanisms**

- **Excellence across all Horizon 2020 and "Stairway to Excellence"**

- **Synergies and complementarities with Structural Funds**

Thank you

www.gracacarvalho.eu

mariadagraca.carvalho@
europarl.europa.eu