



Investigating the Impact  
of the **Innovation Union**

# I3U Getting Good Ideas to Market

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the European Union

# Getting Good Ideas to Market – Commitments 10-23

## Innovation and Access to Finance (WP 3)

- EU level financial instruments
- Cross-border VC
- Cross-border match of investors & innovators
- State Aid framework for R&D&I

## Creating a Single Market (WP 4)

- Unitary patent & Unified dispute settlement system
- Regulatory framework
- Standardisation
- Public procurement
- Eco-innovation

## Promoting Openness and Europe's Creative Potential (WP 5)

- Creative industries & design
- OA & research information services
- Collaboration & knowledge transfer
- Market for technology
- IPR's & horizontal agreements

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# I3U Project – Work Done by Commitments

- Literature review
- Policy rationale and objectives
- Milestones and state of implementation
- Direct impact assessment
- Commitments and expected consequences in a broader context (eco innovation system and Nemesis)
- Policy recommendations

# Where Do We Stand? - Stage of Implementation

## Unitary Patent

25 MS agreed on UP and Translation arrangements in 2012, becomes only effective when at least 13 MS (incl. DE, UK, FR) also ratify UPCA – currently **16 MS but on hold due to constitutional complaint in DE**

## Eco-innovation

**Eco innovation plan:** not a separate funding instrument, but identifies 7 actions to promote EI, e.g. EU environmental policy, funding EI in SMEs, training of „green skills“, European Innovation Partnerships (EIPs), new standards

**Supplemented by different policy initiatives:** Green Action Plan for SMEs, Green Employment Initiative, Circular Economy Package

## Regulatory Framework

**EIP-Water & EIP Raw Materials but no other**

## Public Procurement

**New PP directives: 2014/24/EU and 2014/25/EU:** Inclusion of Innovative PP – but delay in implementation at national level (21 infringement cases end of 2016)

**Increase share of PP calls for tenders in H2020:** budget of ca. EUR 130 mill)

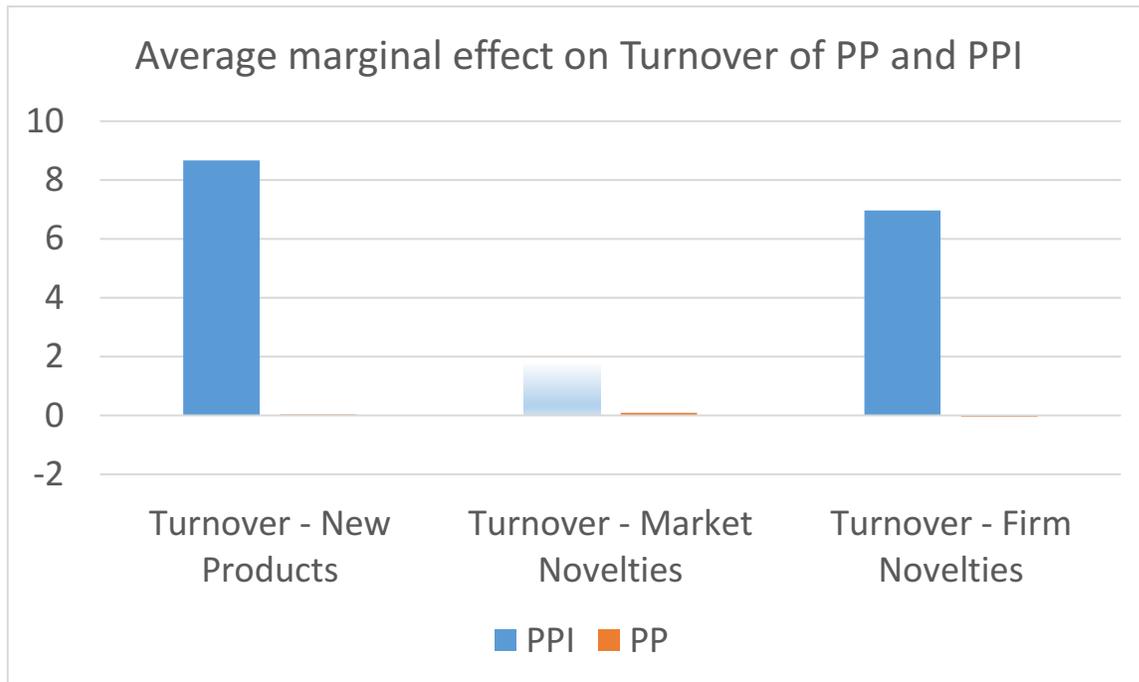
**Guidance to public procurers and SME:** EAFIP—the European Assistance for Innovation Procurement

## Standardisation

**Standardisation directive 1025/2012:** mandated standardisation, AUWP (EC), AWP (ESO), exchange drafts, financing of standardisation, stakeholder participation,

**Rolling Plan-ICT standardization**  
**Online tools**

# Innovative Public Procurement as Driver of Innovation – Evidence from the 2009 Reform in Germany

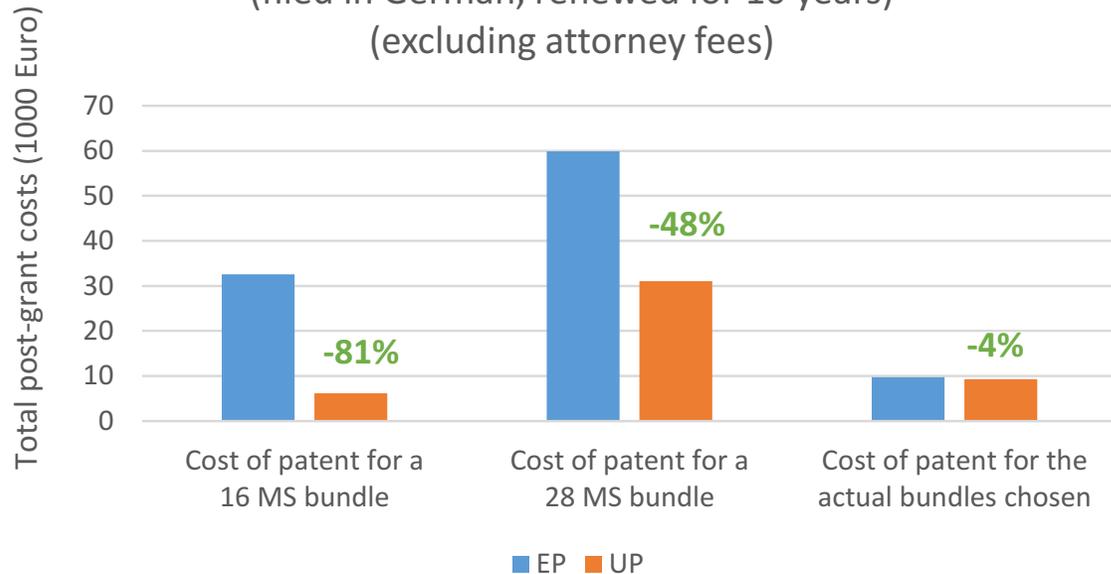


- No significant effects of PPI on R&D input
- Effect of innovative PP on share of sales with new products is statistically significant and large – but only for new-to-firm products
- Effect of other types of public procurement contracts is insignificant
- Share of firms that won innovation-directed public procurement contracts is still small
  - 19.7 % of firms with PP
  - Among them 13.2% with Innovative PP which corresponds to 2.6% of the population

- Population-level impact estimates: sales increase of EUR 13 billion (=0.37% of DE-GDP)
- Procurement law reform was important step towards using PP as policy tool for innovation

# Unitary Patent: Expected Cost Reductions and Benefits

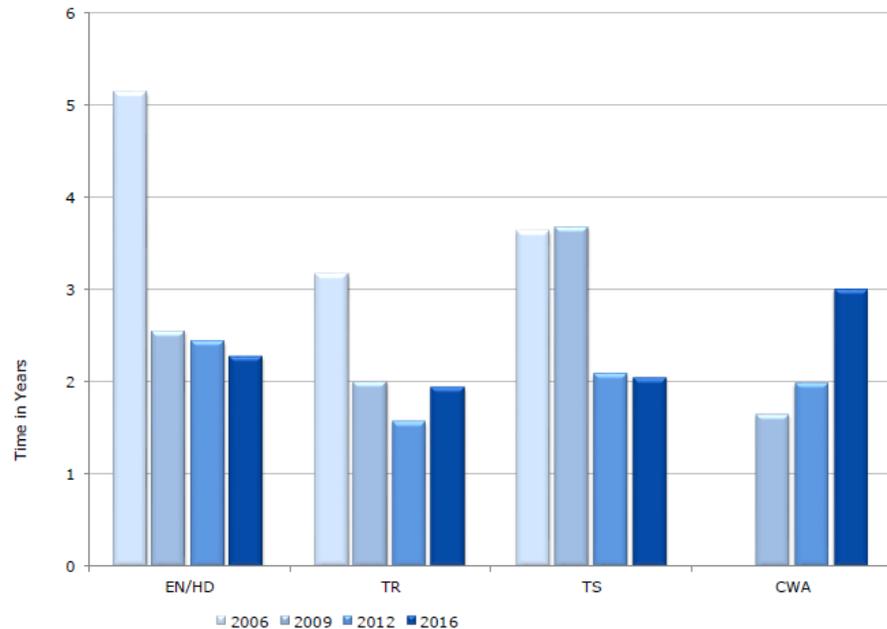
Total Post-Grant Patent Costs  
(filed in German, renewed for 10 years)  
(excluding attorney fees)



- Average EP patent (EP-Actual): 5 validated states, most often filed in German, renewed for 10 years: **Average cost reduction: 4%**.
  - Cost savings lower than predicted because actual EP bundles are usually not exactly those 16 UP-MS
  - **Cost savings vary substantially**
  - Patents seeking a **wide geographical coverage** (esp. covering UP-16 MS) for **long durations** will **benefit the most**.
  - Expected **switching rate** from EP to UP: 36%
- 
- **Expected cost savings under UP limited from a financial point of view. But additional benefits due to larger geographical coverage at zero cost (hard to estimate)**
  - **UP would be a significant step towards the creation of a Single Innovation Market because it would harmonise the patent system across Europe, which is currently still very fragmented but UP still on hold**

# Speed of Standardization and Standards as Driver of Innovation

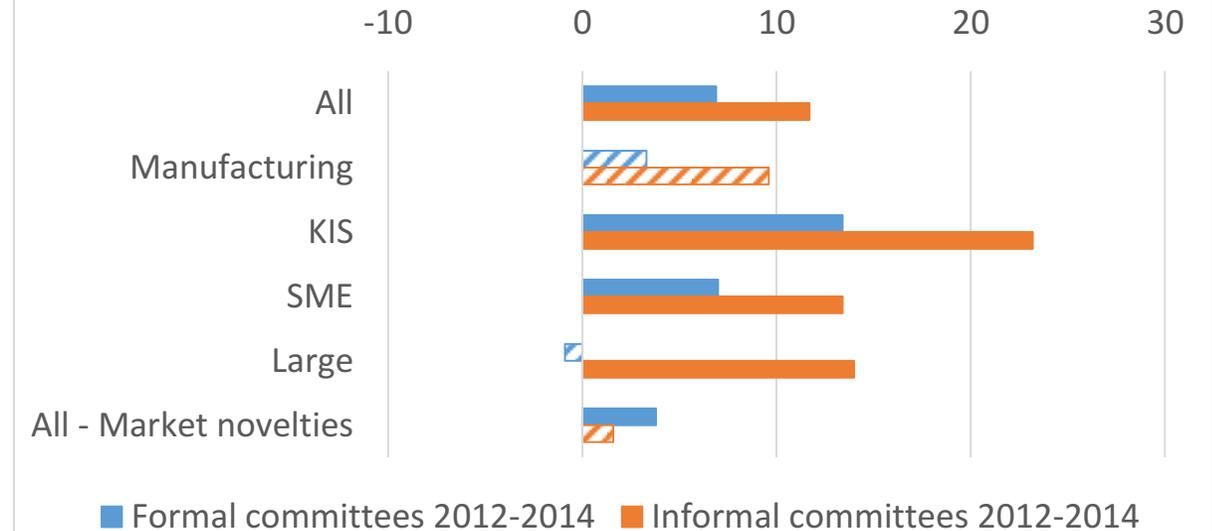
Time to Standards Production, 2006-2016



- **European standardization has become faster**
- **Standard production remained rather stable after 2010**

- **Formal and informal standardization activities boost development of future product (DE)**
  - In particular for new-to-market products, SMEs and KIS
  - No evidence that it increases commercialization success

Effect on the Likelihood of Future Innovation (in %)



# Impact on Eco Innovation Systems in Europe

- **Effect of these commitments differ across innovation systems at MS level**
- **Firms will benefit the most from policies in this area**
  - Remove barriers to innovation (UP, public procurement, eco-innovation, regulatory framework)
  - Increase their capabilities (standardization, eco innovation)
  - Increase interactions (standardization)
- **Moderate effect on research universities and RI**
- **Policies likely to widen innovation gap across MS in Europe (>> strongly developed & public-policy led IS)**
  - UP, PPI, regulatory framework
- **Policies likely to lower innovation gap across MS in Europe**
  - Standardization, eco innovation
- **UP: Trade-off for developing and lagging behind countries**
  - Less access to IP because more inventions will be patent-protected in their country vs. increased international technology diffusion because UP makes patent documents more readily available in different languages

# Policy Recommendations

## ➤ Unitary Patent

- ✓ Seek implementation of UP – even if UP is not in force before Brexit
- ✓ Will be major step towards creation of a single innovation market

## ➤ Standardization

- ✓ Observe future standardization time carefully and streamline processes if necessary.
- ✓ Focus on quality of standards (not only timing and quantity)
- ✓ JIS announcement to prioritize standards production (ICT, services) sensible for producing world-leading standards

## ➤ Public procurement

- ✓ Increase awareness for the new policy tool and amount of PPI tenders
- ✓ Motivate procurement offices to seek for more novel and risky solutions (incentive schemes)
- ✓ PCP - research tasks can be commissioned to several suppliers and in stages - promising instrument to increase PP for more radical innovation.

## ➤ Regulatory framework

- ✓ Only two screenings done, screening in further areas (e.g. eco innovation) and national level useful demanding and difficult to screen.
- ✓ Recommendations derived from any screening exercises performed need to be implemented.

## ➤ Eco-innovation

- ✓ Complementary demand side policies necessary

## ➤ Improve data research infrastructure

- ✓ Combined data on standards and innovation for all MS
- ✓ Harmonized methodology how to measure PPI expenditures & data collection

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- **Collaboration & knowledge transfer**
- **Market for technology**
- **IPR's & horizontal agreements**

# Where Do We Stand? - Stage of Implementation

## Market for Technology

**Initiatives considered:** Online technology platforms, European Licensing funds, encourage patent valorization by SMEs

**No actions taken**

## Open Access/RIS

**Strong progress since 2010**

MS already have a strong tradition in building infrastructures for OA repositories and stimulating the establishment of OA journals

## Collaboration & TTO

## Creative Industries

**European Creative Industries Alliance Policy Learning Platform** promote the wider use of creativity by other sectors

## Design

**European Design innovation Platform** and **European Design Excellence label**

## IPR & competition law

**Revision of chapter on horizontal agreements in Art. 101:** safeguards for standardization, TT agreements, patent pools  
But **no clear solutions** in case **law issues arise**

# Creative Industries as Driver for R&D in Other Sectors

- Knowledge *spillovers* from creative industries to no-creative industries: Positive effect (on average) of C19.1 implementation in private R&D expenditures ➔ Each euro of *BERDbyBUS* in Creative Industries leads to an additional *BERDbyBUS* in the others sector by 1.8€
- Some countries appears to take more advantage of C19.1 implementation than others
- Countries in GROUP 1 (Positive Effect): public support is more needed in countries with a moderate and lower innovation performance and if CI activities are less developed in theses countries, measures implemented by C19.1 could easier to have a positive effect
- Countries in GROUP 2 (Negative Effect): R&D performed by CI has a substitution on R&D performed by non-CI (countries strongly developed in IS) ➔ evidence of weakness on collaboration and technology transfer among firms of different sectors

*Table I. Positioning of each country regarding C19.1 – Creative Industries*

Group 1 = Positive effect		Group 2 = Negative effect	
Country	Classification in IS	Country	Classification in IS
› Italy	Publicly Policy-led	› Finland	Strongly Developed
› Latvia	Publicly Policy-led	› Austria	Strongly Developed
› Lithuania	Publicly Policy-led	› UK	Strongly Developed
› Malta	Publicly Policy-led	› Sweden	Strongly Developed
› Portugal	Publicly Policy-led	› Slovenia	Strongly Developed
› Estonia	Lagging Behind	› Germany	Strongly Developed
› Greece	Lagging Behind	› France	Publicly Policy-led
› Poland	Lagging Behind	› Cyprus	Developing
› Bulgaria	Developing	› Spain	Developing
› Czech Republic	Developing	› Croatia	Developing
› Hungary	Developing	› Slovakia	Developing
› Romania	Developing		

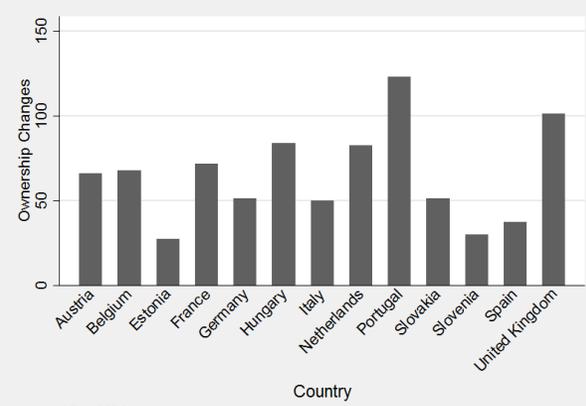
# Design as Driver for R&D in Other Sectors

- Positive effect (on average) of C19.2 implementation in private R&D expenditures ➔ Each registered Community Design leads to an additional *BERDbyBUS* in the others sector by 118.000€.
- Some countries appears to take more advantage of C19.2 implementation than others: positive and negative effect of policy intervention
- On average, countries where governments regulation and legislation, as regards to the Intellectual Property Rights (as Registered Community Designs) is strong have the ability to influence positively innovation behavior
- In countries with a weak IPR protection the measures implemented by C19.2 are not able per se to leverage private R&D expenditures

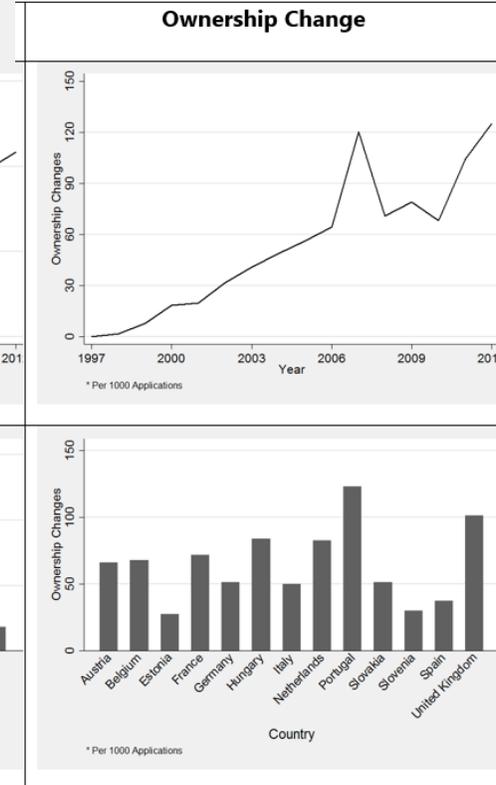
*Table II. Positioning of each country regarding the effect of C19.2 (Design)*

Group 1 = Negative effect		Group 2 = Positive effect
Country	Classification in IS	
› UK	Strongly Developed	
› Malta	Publicly Policy-led	
› Estonia	Lagging Behind	All the others countries
› Greece	Lagging Behind	
› Cyprus	Developing	
› Hungary	Developing	
› Slovakia	Developing	

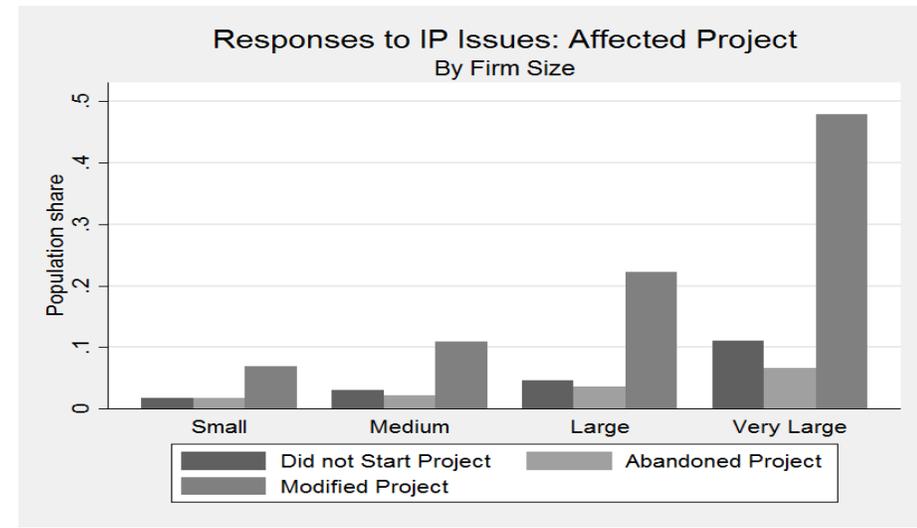
# the Market for Technology



## Legal Events Statistics



## German Community Innovation Survey Data



- **Access to IP is a significant issue** for a significant share of firms, but **concentrated** in certain industries
- **Modifying projects** to avoid IP rights issues is **more common** than **not starting** or **abandoning projects**

Patent legal event indicators show positive trends, but issues with **representability** and **lack of transparency** and **harmonization**

➤ **Monitoring not straightforward**

# Open Access / RIS

- EU MS already have **strong tradition** in building OA infrastructures and stimulating establishment of OA journals
- OA to publicly funded research in addition to RIS increase “**spillovers**” having direct (and indirect) impact on the innovation system: **large heterogeneity across countries and different disciplines**
- Most important (user): **single interface** to search multiple OA repositories or unique interface in the form of portals
- OA journals from EU countries of **better quality** (quartiles, h-indices, SJR) than traditional EU scientific journals
- Access to various information sources important for Croatian SME; access to regulatory information most important, followed by technical information; pure research-oriented information are less important

# Impact on Innovation Systems in Europe

- **Effect of these commitments differ across innovation systems at MS level**
- **Firms will benefit the most from policies in this area**
  - Remove barriers to innovation (MfT, IPR's and competition law)
  - Increase their capabilities (OA)
  - Increase interactions (OA, creative industries, design, collaboration, IPR's and competition law)
- **Moderate effect on research universities and RI**
- **Policies which are/would be key for all European regions but impact will differ across EIS**
  - MfT: Increased incentives to innovate and selling IP in strongly developed EIS; allow developing and lagging behind ecosystems to catch up, as they are better able to acquire necessary IP to ensure own innovative activities
- **Policies likely to lower innovation gap across MS in Europe**
  - IPR's and competition law
  - OA should benefit all types of IS and allow for convergence among MS, nevertheless well-developed MS are expected to benefit the most as OA requires coordination and investment into infrastructures

# Policy Recommendations

## ➤ Open Access

- ✓ Shall become default option for scientific results of all publicly funded research by 2020. ERA National Action Plans already include a number of actions to speed up this process (e.g. creating e-infrastructures to store and access results)
- ✓ **Educational promotional activities** directed towards users, especially SMEs in developing and lagging behind countries, should be additionally emphasized

## ➤ Collaboration

- ✓ Potential not fully exploited yet, both collaboration and TTO intensified - differently
- ✓ **Universities and RI** have to become **more entrepreneurial** - **educating** scientists and support staff
- ✓ Appropriate **incentive schemes** beyond publications and scientific impact should be developed.

## ➤ Market for Technology

- ✓ Need to **create European market for patenting and licensing**.
- ✓ **Better monitoring tools** needed to systematically assess progress in MfT
- ✓ Provide **incentives for firms** to report ownership changes and licensing to the patent office.

# Macro-level Impacts on Growth and Employment – Integration into NEMESIS

Commitment	Classification for NEMESIS
C14: Unitary Patent	Selected
C15: Regulatory framework in key areas	Statement
C16: Standardization	Candidate
C17: Innovative public procurement	Candidate
C18: Eco-innovation action plan	Statement
C19.1: Creative Industries	Selected
C19.2: Design	Selected
C20: Open Access to Research Results / Research Information Services	Statement
C21: Collaborative Research & Knowledge Transfer	Statement
C22: Market for Technology	Statement
C23: IPRs & competition law	Statement

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Thank you

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