

How will BREXIT affect the scientific community in the UK, Europe and beyond?

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Member, Scientific Panel for Health of the European Commission (SPH)

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ACKNOWLEDGEMENTS



Jana Tenglerova, UEG Brussels

Sorika Berner-Alteneder, UEG Vienna

Jennifer Debarry, Hannover

CONFLICT OF INTEREST



**I am a convinced and passionate
European
and a
Gastroenterologist and Hepatologist**

UNITED

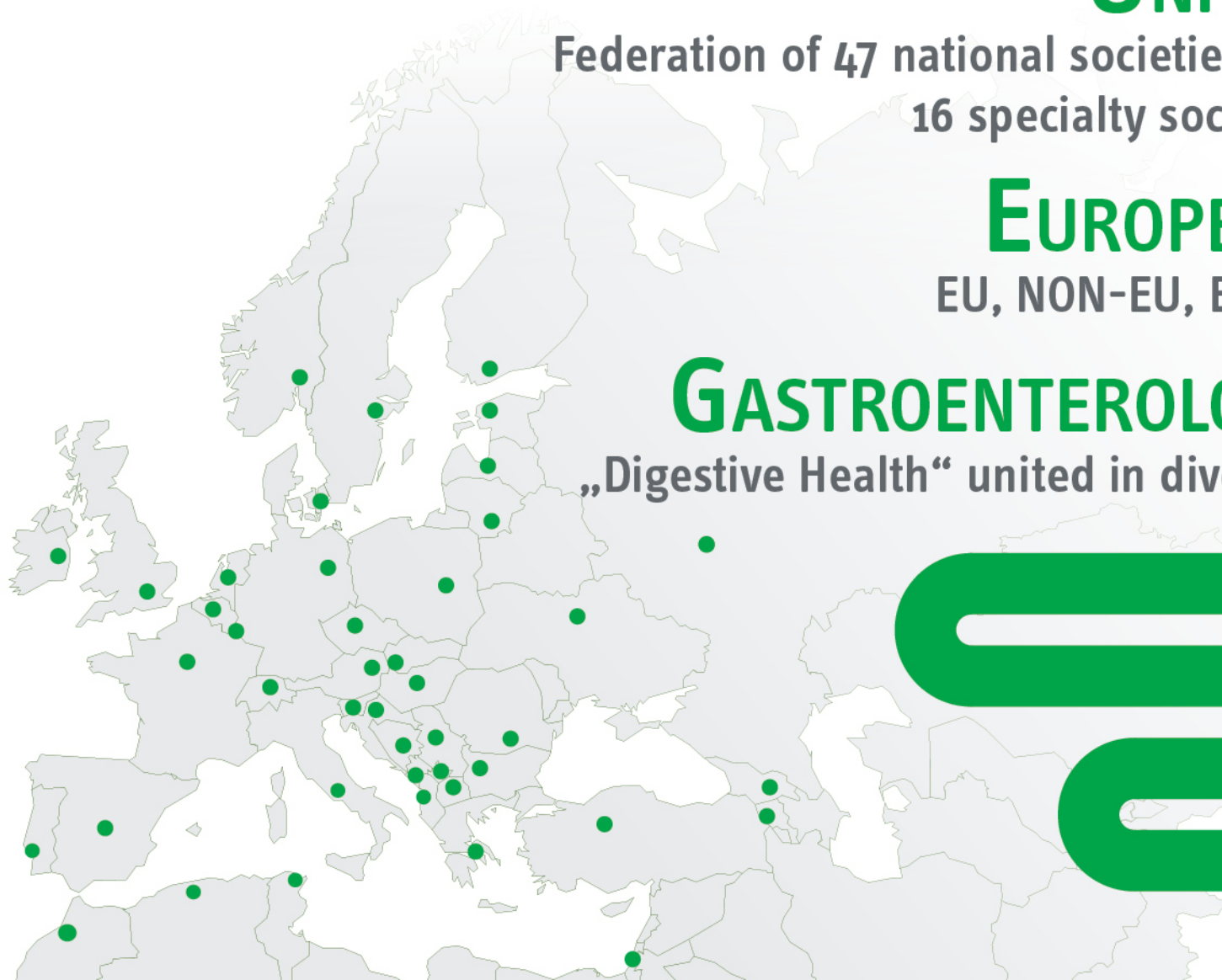
Federation of 47 national societies and
16 specialty societies

EUROPEAN

EU, NON-EU, EX-EU

GASTROENTEROLOGY

„Digestive Health“ united in diversity



Abstract Submission UEG Week – Top Ten Countries

Prominent UEG Officers from UK:

Michael Farthing, Past President

John Atherton, Secretary General

Arthur Kaser, Chair Research Board

and many more

BiomedAlliance



Alliance for Biomedical Research in Europe

a unique initiative representing 20 leading research-oriented medical societies that include more than 250,000 researchers across Europe.

European law makers face numerous healthcare related challenges

Funding for Biomedical Research of all Research Funding:

16 % in US, 8 % in EU

- Shrinking workforce
- **Increasing disease burden of mostly preventable diseases**
- Competitive landscape
- Constantly lagging behind established research leaders (USA, Japan, South Korea)
- Loosing ground to newcomers (China, India)
- **Stagnating investments in research 2002-2007**



The Scientific Panel for Health

Karin Sipido, MD PhD

Chair of the Scientific Panel for Health



SPH: Who are we ?



Martin John Buxton (UK) Emeritus Professor, Health Economics Professor,
Brunel University

Stephen Holgate (UK) Medical Research Council; Clinical Research Professor
of Immunopharmacology, Southampton University



The Scientific Panel for Health: The Mandate

- Complimentary to existing bodies
- To provide foresight and overall vision, strategy
- Identify bottlenecks to innovation and propose solutions
- Give advice on EU research
- Fight for a European Institute of Health: EIH

The Lancet, 2016

http://ec.europa.eu/research/health/policy-issues-horizon2020_en.html

DER SPIEGEL

Nr. 24
11.6.2016



Scientific Community Post Brexit in UK, Europe and beyond

■ **Brexit facts**

- 23 June 2016: 52 % of British people voted for Brexit
- 13 July 2016: Theresa May appointed PM: „Brexit means Brexit“
- 29 March 2017: PM May triggered article 50 of Lisbon Treaty of EU
- 08 June 2017: PM May and conservative party loose parliament majority
- 19 June 2017: negotiations with EU have started
- 01 April 2019: UK to leave EU

Scientific Community Post Brexit in UK, Europe and beyond


- **UK and European Biomedical Research status quo**
- **Challenges and dangers for the scientific community**
- **Vision for UK and European Research Post-Brexit**

Scientific Community Post Brexit in UK, Europe and beyond

JOURNALS:

- Nature
- The Lancet
- GUT

The 2016 Journal Impact Factors are here !



	Full Journal Title	Total Cites	Journal Impact Factor ▼	Eigenfactor Score
1	GASTROENTEROLOGY	70,320	18.392	0.12385
2	GUT	38,889	16.658	0.07016
3	Nature Reviews Gastroenterology & Hepatology	5,699	13.678	0.02348
4	HEPATOLOGY	62,304	13.246	0.10950
5	JOURNAL OF HEPATOLOGY	33,566	12.486	0.08384
6	AMERICAN JOURNAL OF GASTROENTEROLOGY	32,177	9.566	0.04956
7	Liver Cancer	565	7.854	0.00155
8	Clinical Gastroenterology and Hepatology	14,353	7.398	0.04203
9	ALIMENTARY PHARMACOLOGY & THERAPEUTICS	18,259	7.286	0.03474
10	GASTROINTESTINAL ENDOSCOPY	22,589	6.501	0.03306

Published June 2017

THE IMPACT OF COLLABORATION: THE VALUE OF UK MEDICAL RESEARCH TO EU SCIENCE AND HEALTH

Research by
**Peter Varnai, Maike Rentel, Anoushka Davé,
Marika De Scalzi, Wia Timmerman,
Cristina Rosemberg-Montes, Paul Simmonds**
Technopolis Group (May 2017)



Study co-funded by The Academy of Medical Sciences (AMS), Arthritis Research UK, the Association of Medical Research Charities (AMRC), the British Heart Foundation (BHF), Cancer Research UK (CRUK), the Medical Research Council (MRC), MQ: Transforming Mental Health and Wellcome.



acmedsci.ac.uk



cruk.org



arthritisresearchuk.org



mrc.ac.uk



amrc.org.uk



**Transforming
mental health**

mqmentalhealth.org



bhf.org.uk



wellcome.ac.uk

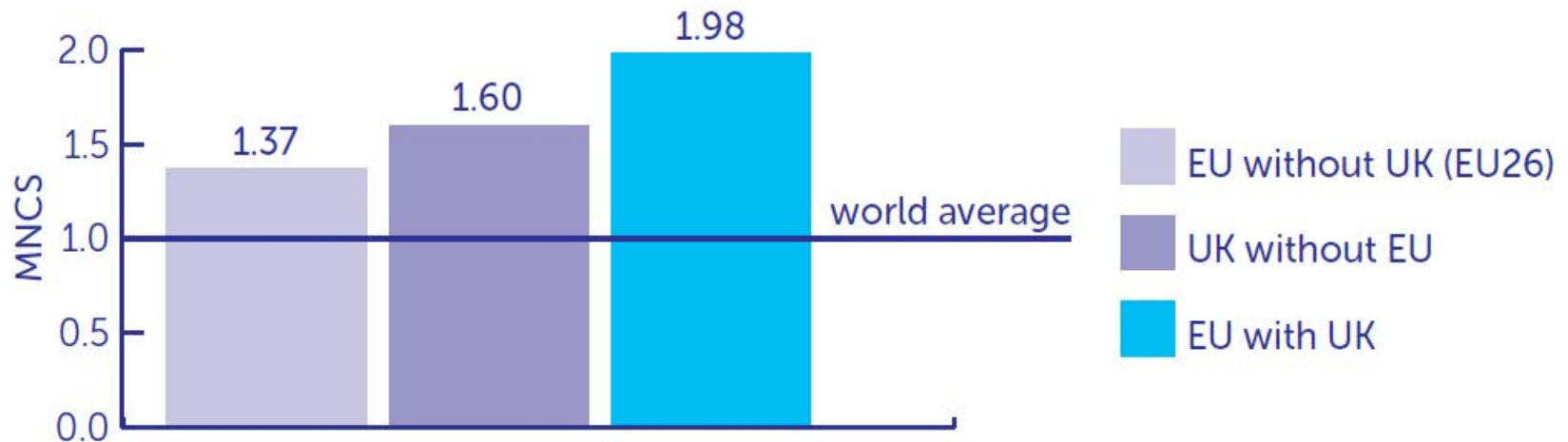
The Value of UK Medical Research to EU Science and Health

1. Contributions to collaborations, advisory bodies, networks and policies
2. Participation in pan-EU clinical trials, providing notable leadership for rare diseases and paediatric clinical trials (e.g ERN)
3. Co-ordination and hosting of some of Europe's unique large-scale infrastructures for medical research (e.g. EMBL)
4. Development of new therapies and medical technologies that benefit EU patients, backed by a thriving pharmaceutical and biotechnology sector (e.g private research funding, EMA)
5. Training early career researchers from across the EU, to develop their skills and careers

THE IMPACT OF COLLABORATION:

The value of UK Medical Research to EU Science and Health

Mean Normalised Citation Scores (MNCS) for medical and health research publications



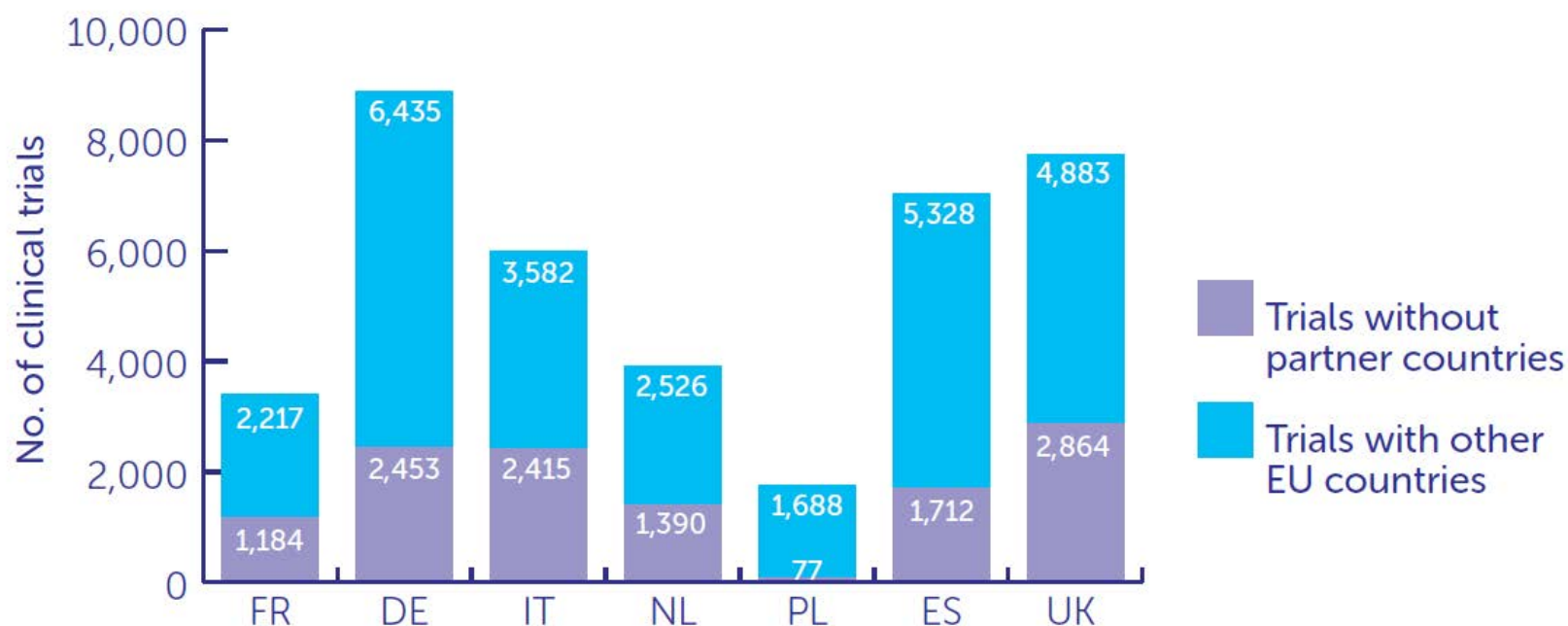
Source: Data analysis CWTS, Leiden University; Data source: Web of Science core collection Clarivate Analytics

Research by Technology group, May 2017,
Study co-funded by AMS, Arthritis Research UK, AMRC, BHF, CRUK, MRC, MQ

THE IMPACT OF COLLABORATION:

The value of UK Medical Research to EU Science and Health

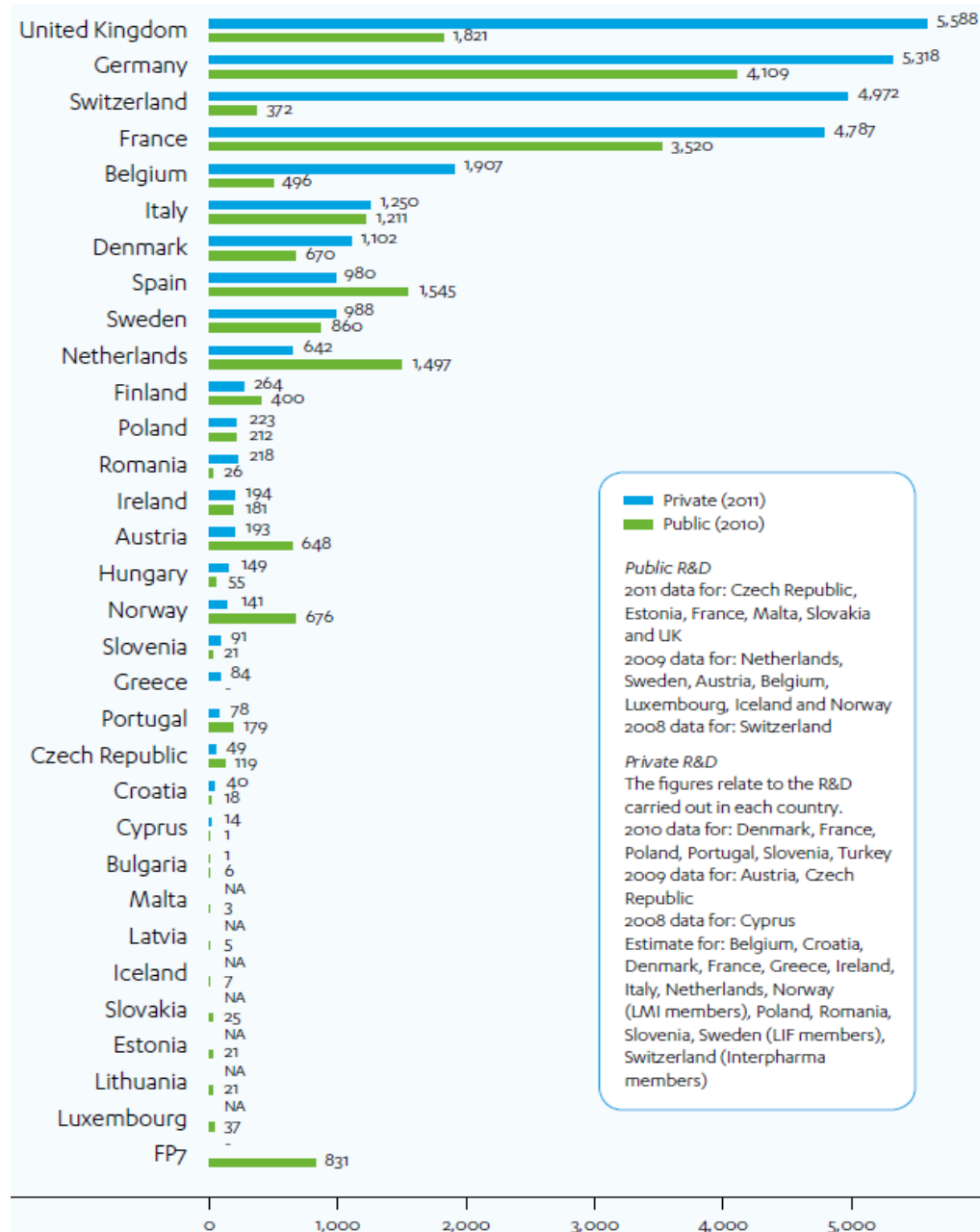
Number of clinical trials conducted by country with or without collaboration with other EU countries



Source: Technopolis Group; European Clinical Trials Database

Research by Technology group, May 2017,
Study co-funded by AMS, Arthritis Research UK, AMRC, BHF, CRUK, MRC, MQ

Strong UK pharmaceutical and biotechnology industry research funding



THE IMPACT OF COLLABORATION:

The value of UK Medical Research to EU Science and Health

Top 10 organisations in terms of Marie Skłodowska-Curie actions fellowships (FP7, 2007-2013)

Institution	Country	Number of MSCA fellowships
Centre National de la Recherche Scientifique	France	514
University of Cambridge	UK	300
University of Oxford	UK	299
Imperial College London	UK	261
Max Planck Society	Germany	250
Consejo Superior de Investigaciones Científicas	Spain	250
University of Zurich	Switzerland	177
ETH Zurich	Switzerland	163
Copenhagen University	Denmark	163
University of Vienna	Austria	143

Box 3 - Marie Skłodowska-Curie Actions

Researcher mobility is associated with better international networks, more research outputs, higher-quality outputs and for most, better career outcomes.²⁹ A report by Rand Europe on the international mobility of researchers found that, in the UK, the proportion of researchers and doctoral candidates who are from outside the UK is rising.³⁰ This suggests that the UK is an increasingly attractive destination for researchers across the globe.

Both the UK and the EU are leading destinations for doctoral training. The UK has led the EU in hosting researchers funded by the European Research Council as well as Marie Skłodowska-Curie Actions (MSCA) researchers. Over 2,200 researchers from across the world have come to the UK as part of MSCA.³¹

The EU has introduced measures designed to facilitate the movement of researchers - including those from third countries - across the EU. In addition to funding exchanges, the EU facilitates mobility for researchers in the UK and across Europe through the European Research Area (ERA) which aims to address barriers to mobility and make Europe a more attractive research destination, acting as an open labour market for researchers. The UK would welcome discussion as to how this might apply in future.



Source: European Commission, Specific Programme for Research and Innovation

on PEOPLE
Annex 1, Table 1

Research by technology group, May 2017,

Study co-funded by AMS, Arthritis Research UK, AMRC, BHF, CRUK, MRC, MQ

© UEG. 2017

Pre Brexit Situation: HORIZON 2020

Box 4 - Horizon 2020

Horizon 2020 facilitates researcher collaboration with an emphasis on excellent science, industrial leadership and tackling societal challenges. Horizon 2020 provides grant support along the entire research and development chain, from groundbreaking research to close-to-market activity. Importantly for the UK, Horizon 2020 awards funding based on excellence and competition.

Key to Europe's success as a knowledge-based society and innovation leader is frontier research aimed at meeting global challenges. At the EU level this fundamental research is funded by the European Research Council (ERC), as part of Horizon 2020. To ensure scientific excellence, the ERC funds investigator-driven research through open competition, supporting both established researchers and the next generation. The UK has played a key role in the ERC.

The UK is a highly active participant in Horizon 2020. It ranks first across the EU in the number of participants with signed contracts, with 7,360 so far.³⁷ This includes 318 from Cambridge University, 303 participants from Oxford University and, in Scotland, 172 from Edinburgh University.³⁸ The UK also has 2,025 MSCA fellows supported by Horizon 2020.³⁹ The UK has collaborated with EU and international partners on a range of projects, from taking hydrogen fuel cell vehicles to market (HYFIVE), to building robots that interact with children to help manage their diabetes (PAL), to training young researchers to exploit big data (LONGPOP) and developing the reference epigenome maps of blood cells (BLUEPRINT).

Horizon 2020 also supports a range of public-private partnerships, which the UK is involved in. For example, the Innovative Medicines Initiative (IMI), the world's largest medical research public-private partnership, brings together the pharmaceutical industry with academia, SMEs and other stakeholders to accelerate the discovery and development of new medicines.⁴⁰ The UK has participated extensively in the IMI – over 90 per cent of IMI projects have involved at least one UK institution.⁴¹ For example, UK researchers and companies have collaborated to improve the treatment of patients with chronic pain (Europain), shorten clinical trials on diabetes, making new treatments available to patients sooner (SUMMIT), to revolutionise clinical trials of drugs designed to prevent Alzheimer's dementia (EPAD), and to tackle the global problem of antibiotic resistance (New Drugs for Bad Bugs - ND4BB).

The UK recognises the need to provide certainty to all stakeholders wherever possible. This is why the Government has committed to underwrite bids for Horizon 2020 projects submitted while the UK is still a member of the EU. The UK will work with the Commission to ensure payments when funds are awarded, and Horizon 2020 participants should continue to collaborate as normal. The UK Government will continue to work closely with the Devolved Administrations who play an important role in administering Horizon 2020.



- Horizon 2020
- UK: No 1 sig
- UK: 5428 par
400 mio
- UK

budgets

received €

ss rate

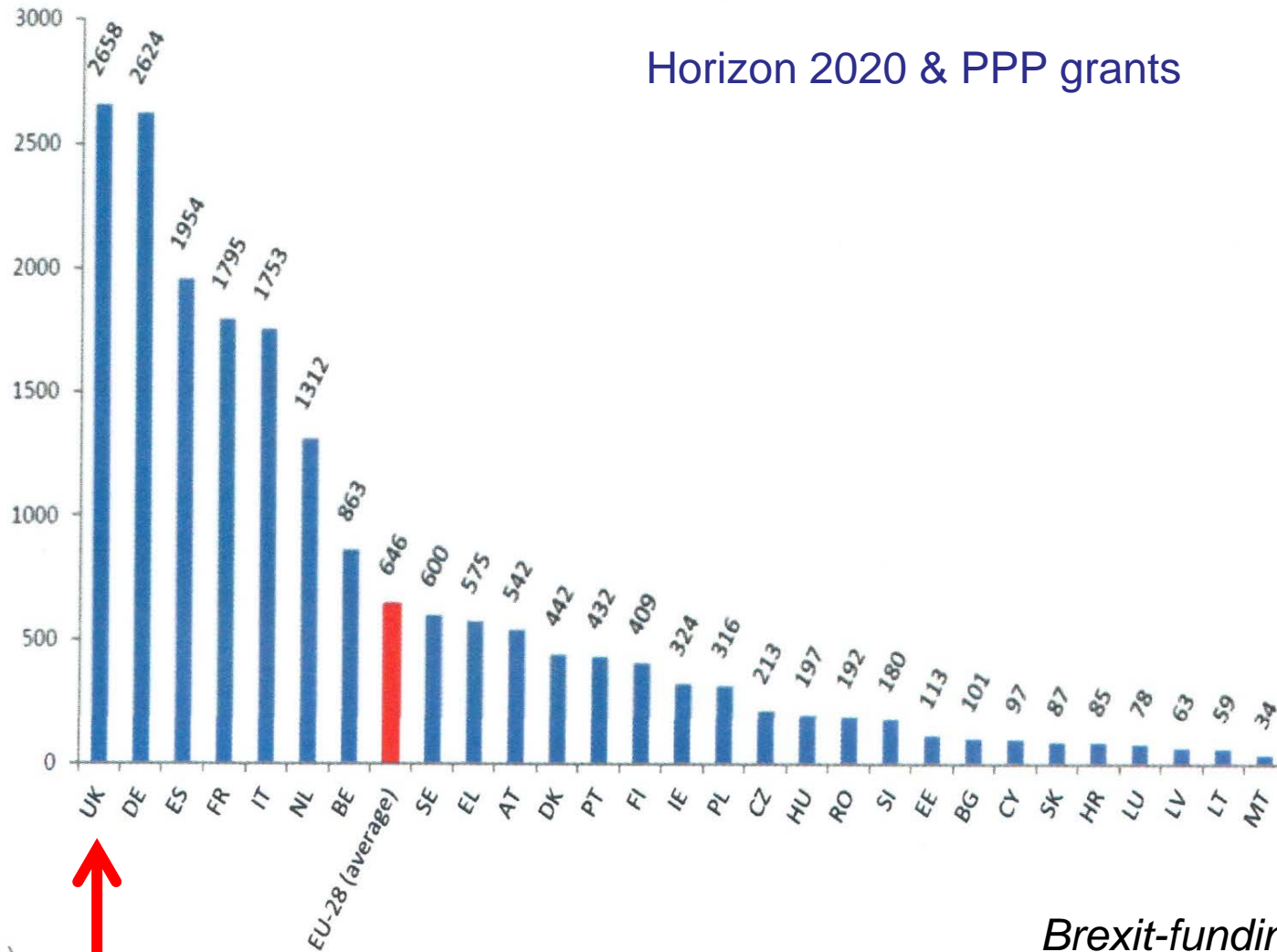
cit-funding.com



© UEG. 2017

EU Member States' participations in grants signed before 1 December 2015

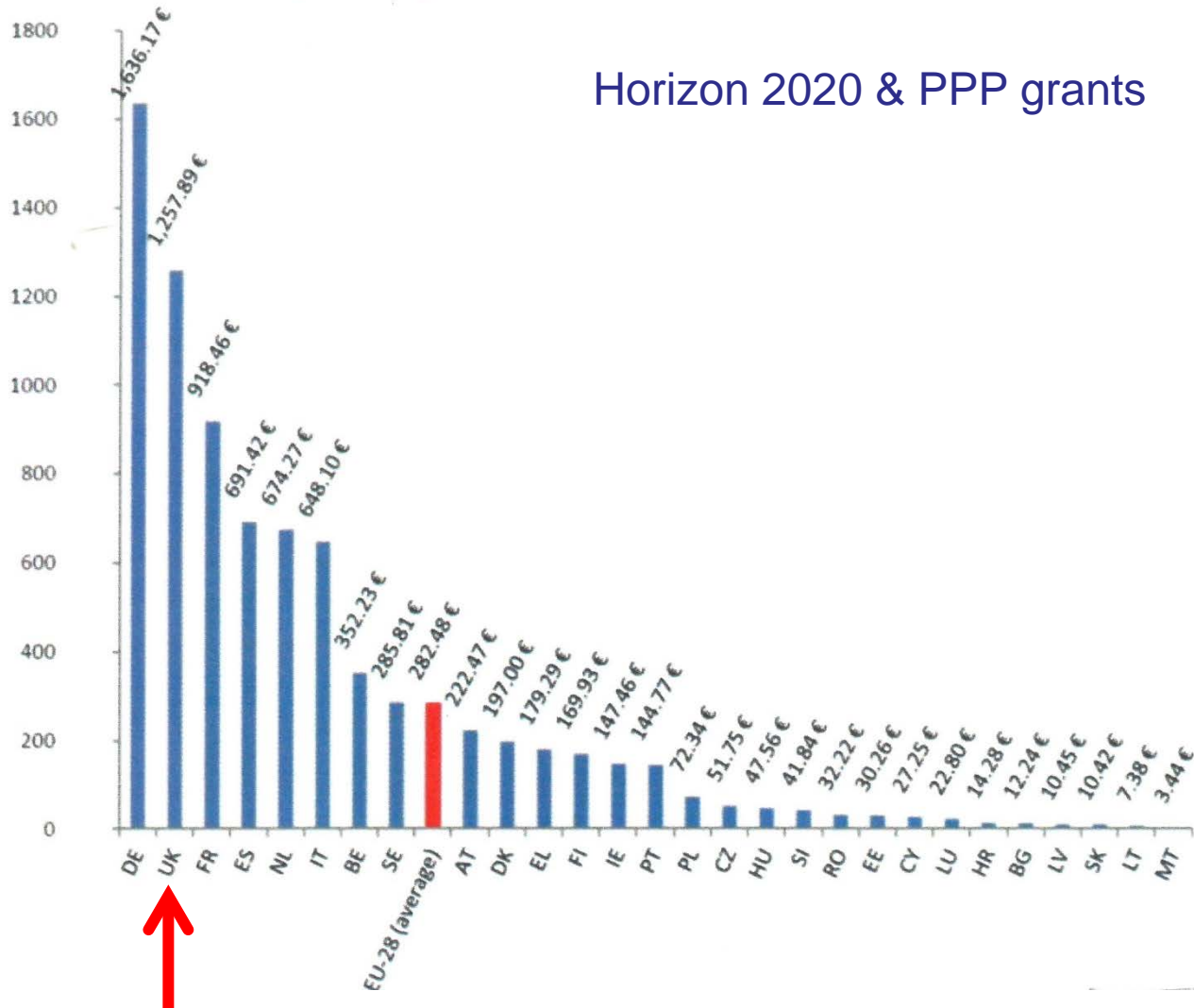
Horizon 2020 & PPP grants



Brexit-funding.com

EU contribution to grants signed before 1 December 2015 by EU Member States

Horizon 2020 & PPP grants



Brexit-funding.com

Is Brexit also a goodbye to science and research cooperation?

Written by Paul Rübzig on 5 May 2017 in Opinion

Opinion

Science and research are essential motors of prosperity for the EU, and the UK's research sector has a lot to lose following Brexit, warns Paul Rübzig.



Paul Rübzig | Photo credit: European Parliament audiovisual

Scientific Community Post Brexit in UK, Europe and beyond

- We now recruit many of our best researchers from continental Europe, including younger ones who have obtained EU grants and have chosen to move with them here (1)
- 16 % of all UK university academics come from the EU
- EU academics are equally important in the core subject areas that are vital to UK long-term economic health.
- Areas like physics (26%), chemical engineering (25%), biosciences (22%), chemistry (21%) and IT (20%) are all heavily reliant on European talent (2)

<https://www.theguardian.com/politics/2016/mar/10/brexit-disaster-for-uk-science-say-scientists-stephen-hawking>

<http://blogs.lse.ac.uk/brexit/2017/01/26/no-longer-welcome-the-eu-academics-in-britain-told-to-make-arrangements-to-leave/>

Scientific Community Post Brexit in UK, Europe and beyond

- **Brexit will have an impact on:**
 - **Trade between UK and EU**
 - **Free movement of people**
 - **Access to EU funding**
 - **International cooperation**
 - **Industry**
 - **Governments**
 - **Research Institutes**

Scientific Community Post Brexit in UK, Europe and beyond

- **Brexit will have an impact on:**
 - Trade between UK and EU
 - Free movement of persons
 - Access to EU funding
 - International cooperation
 - Industry
 - Governments
 - Research Institutes
- **Innovations, R & D, and new technologies !!!!!!!!!**

Scientific Community Post Brexit in UK, Europe and beyond

„As no c
uncertain

Alternative Brexit models						
	EU membership	Norway	Switzerland	Canada	Turkey	WTO
Single market member?	Full	Full	Partial	No	No	No
Tariffs?	None	None	None	Reduced tariffs through free trade deal	None on industrial goods	Yes
Accept free movement?	Yes	Yes	Yes	No	No	No
In the customs union	Yes	No	No	No	Yes	No
Makes EU budget contributions	Yes	Yes	Yes (but smaller than Norway)	No	No	No

on treaty it is
ing practice“

<http://www.bbc.com/news/uk-politics-37507129>

Scientific Community Post Brexit in UK, Europe and beyond

Option 1: **Hard Brexit** – UK leaves single market, control of migration, no contribution to EU budget, no application of EU law, UK negotiates trade deals

Option 2: **Soft Brexit** – “Norwegian” model (European Economic Area or similar) – access to single market, freedom of movement for EU citizens, contribution to EU budget, most EU law applies

Option 3: Options in between these two extremes?

PM Theresa May:

„Taking back control over immigration is more important than retaining membership of Single Market or Custom Union“

Scientific Community Post Brexit in UK, Europe and beyond

theguardian

May's Florence speech confirmed it: we need to ditch Brexit

Hugo Dixon

After the prime minister's U-turns, the push is on for a soft Brexit. But the best deal of all is, and always was, staying in the EU

<https://www.theguardian.com/commentisfree/2017/sep/24/brexit-theresa-may-florence-speech-mad-escapade-best-deal-say-in-eu>



‘As reality bites, Theresa May is being forced to give up on Brexiters’ fantasies.’ Photograph: Reuters

Scientific Community Post Brexit in UK, Europe and beyond

- **Post - Brexit: Short Term**

- No impact on already funded projects
- EU law continues to apply to and within the UK until UK actually leaves
- Includes UK legal entities to participate and receive Horizon 2020 funding



Britons 'bumped off' EU medical research grant applications, MPs told

Committee hears Brexit prompting move by European colleagues, while UK position would be threatened by no access to European funding

Lisa O'Carroll Brexit correspondent

Tuesday 21 February 2017 19.56 GMT

theguardian 21 February 2017

M_HH

Medizinische Hochschule
Hannover

Scientific Community Post Brexit in UK, Europe and beyond

- **Post - Brexit: Long Term**

- All depends on negotiated Brexit deal
- COSME
- COST
- ERASMUS
- European Regional Development Fund (ERDF)
- European Social Fund (ESF)
- The 3rd Health Programme
- Horizon 2020

Brexit – anticipated implications

- Cut off from European networks and funding (e.g. Horizon 2020)
- UK universities are heavily dependent on academics from the EU (over 16% of UK university academics come from the EU; Marie Curie fellowships)
- Difficulties for intricate networks of collaboration and exchange
- **Participation to European Reference Networks: ERN**



ERN on hepatological diseases (ERN RARE-LIVER)



Rare liver diseases can cause progressive liver injury leading to fibrosis and cirrhosis. The complications of cirrhosis can lead to death and, in many cases, the only effective treatment is liver transplantation. Fatigue, pruritus in cholestatic conditions, and pain and abdominal swelling in cystic conditions significantly affect quality of life.

In paediatric patients, delay in diagnosis, and failure to thrive and attain developmental milestones are additional key factors, along with the challenge of transition in care through adolescence.

ERN RARE-LIVER addresses three disease themes: autoimmune liver disease, metabolic biliary atresia and related liver disease, and structural liver disease. The network will, for the first time in liver disease, fully integrate adult and paediatric care with a focus on the needs of transitional populations and the implications for families with a genetic diagnosis.

The development of up-to-date guidelines is a priority. Care guidelines will be



*The network will, for the first time
in liver disease, fully integrate
adult and paediatric care.*

implemented in collaboration with the European Association for the Study of the Liver (EASL) and the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN). This will be supported by the standardisation of key diagnostic and prognostic tests.

Clinician awareness of rare liver disorders and equitable access to rapidly evolving treatment options are major challenges to be addressed.

NETWORK COORDINATOR

Professor David Jones
*The Newcastle upon Tyne Hospitals
NHS Foundation Trust, United Kingdom*

**Network coordinator:
Professor David Jones, Newcastle**



European
Reference
Networks

No.	Clinical Centres
1	The Newcastle upon Tyne Hospitals NHS Foundation Trust
2	University Hospitals Saint-Luc
3	University Hospital Ghent
4	University Hospital Leuven
5	Copenhagen University Hospital Rigshospitalet
6	Assistance Publique-Hôpitaux de Paris, Hôpital Bicêtre
7	Assistance Publique-Hôpitaux de Paris, Hôpital Saint-Antoine
8	Assistance Publique-Hôpitaux de Paris, Hôpital Beaujon
9	Medizinische Hochschule Hannover
10	Universitätsklinikum Tübingen
11	Uniklinik RWTH Aachen
12	Universitätsklinikum Hamburg-Eppendorf
13	Universitätsklinikum des Saarlandes
14	AO di Padova
15	Ospedale S. Gerardo di Monza
16	Ospedale S. Paolo di Milano
17	Academic Medical Center Amsterdam
18	University Medical Center Groningen
19	Radboud University Medical Center Nijmegen
20	SPCSK, Banacha, Warszawa
21	Centro Hospitalar e Universitário de Coimbra, EPE
22	Hospital Clínic i Provincial de Barcelona
23	Hospital Universitario La Paz
24	Karolinska Universitetssjukhuset
25	Sahlgrenska Universitetssjukhuset
26	Birmingham Children's Hospital NHS Foundation Trust
27	Royal Free London NHS Foundation Trust
28	University Hospitals Birmingham NHS Foundation Trust



Representative in the ERN Board of Member States
overview, UK breakdown→ **UK centers are well-
represented in the European Reacher Networks**, in
total more than 100 members

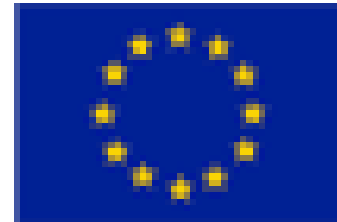
- **1 -2 MEMBER:** Belfast City Hospital, Belfast Health and Social Care Trust, Cardiff and Vale University Health Board, Derby Teaching Hospitals NHS Foundation, King's College Hospital NHS Foundation Trust, Moorfields ERN EYE Hospital NHS Foundation Trust, NHS Greater Glasgow and Clyde Board, NHS Tayside, Ninewells Hospitals and Medical School Dundee, Papworth Hospital NHS Foundation Trust, Queen Elizabeth University Hospitals Glasgow, Royal Brompton & Harefield NHS Foundation Trust, Royal Infirmary of Edinburgh - NHS Lothian, Royal National Orthopedic Hospital NHS Trust, Sheffield Children's NHS Foundation Trust, The Christie NHS Foundation Trust, The Royal Marsden NHS Foundation Trust, University Hospitals Coventry & Warwickshire NHS Trust, University of Dundee
- **3-4 MEMBERS:** Alder Hey Children's NHS Foundation Trust, St George's University Hospitals NHS Foundation Trust:, The Leeds Teaching Hospitals NHS Trust, University Hospital Southampton NHS Foundation Trust, University Hospitals Bristol NHS Foundation Trust, Royal Free London NHS Foundation Trust, Sheffield Teaching Hospitals NHS Foundation Trust, University Hospitals Birmingham NHS Foundation Trust,
- **5-6 MEMBERS:** Barts Health NHS Trust, The Newcastle upon Tyne Hospitals NHS Foundation Trust, University College London Hospitals NHS Foundation Trust, Guy's and St Thomas' NHS Foundation Trust
- **7-8 MEMBERS:** Oxford University Hospitals NHS Foundation Trust, Birmingham Children's Hospital NHS Foundation Trust
- **9 MEMBERS:** Central Manchester University Hospitals NHS Foundation Trust
- **13 MEMBERS:** Great Ormond Street Hospital for Children NHS Foundation Trust

Brexit – anticipated implications

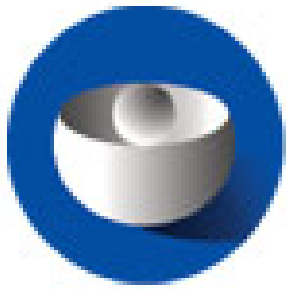
- Biomedical Research: UK and EU medical research are interlinked and vital for each other
- Mobility of scientists
- **Access to clinical trials**



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH



www.ema.europa.eu



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

The European Medicines Agency (EMA) is a decentralised

Human- and Veterinary Medicine: One Health

ensuring that all medicines available on the EU market are safe, effective and of high quality.

EMA serves a market of over 500 million people living in the EU.

European Parliament Calls for Rapid Relocation of EMA Headquarters

Posted 06 April 2017 By [Zachary Brennan](#)



Final decision on the new location of EMA likely in October 2017

The European Parliament on Wednesday called for an agreement to be reached “as quickly as possible” to relocate the headquarters of the European Medicines Agency (EMA) following the UK’s decision to exit the EU.



Reality Check: What might Brexit mean for medicines and clinical trials?

By Hugh Pym
Health editor

22 June 2016 | EU Referendum



Share



INDEPENDENT

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INDY/PULSE

BREXIT: ACCESS TO POTENTIALLY LIFE-SAVING CLINICAL TRIALS 'AT RISK' FOR 600,000 PATIENTS

The Independent 17 February 2017

M_HH

Medizinische Hochschule
Hannover

Access to Clinical Trials Post-Brexit

- The new EU Clinical Trials Regulations (EU No 536/2014) , which the UK helped to draw up, aims to streamline the application process for clinical trials through a single approval system for all 28 countries.
- The new EU regulations are set to make it significantly easier for drug companies to test pioneering new treatments in EU countries.
- It is unclear what will happen in the UK; it may become more complicated to run a trial in the UK, with a population of around 60 million, than in the whole EU with a population of 500 million.



Royal College
of Physicians

Setting higher standards

Brexit: What does it mean for medical research?



Research stats in brief:

Funding:

UK is a net beneficiary, most successful securing funding

Contributing to world-leading medical research:

UK is one of the leaders in Europe in clinical trials

Access to new drug:

MHRA provides expertise to EMA

MHRA leads 43 % of licence requests

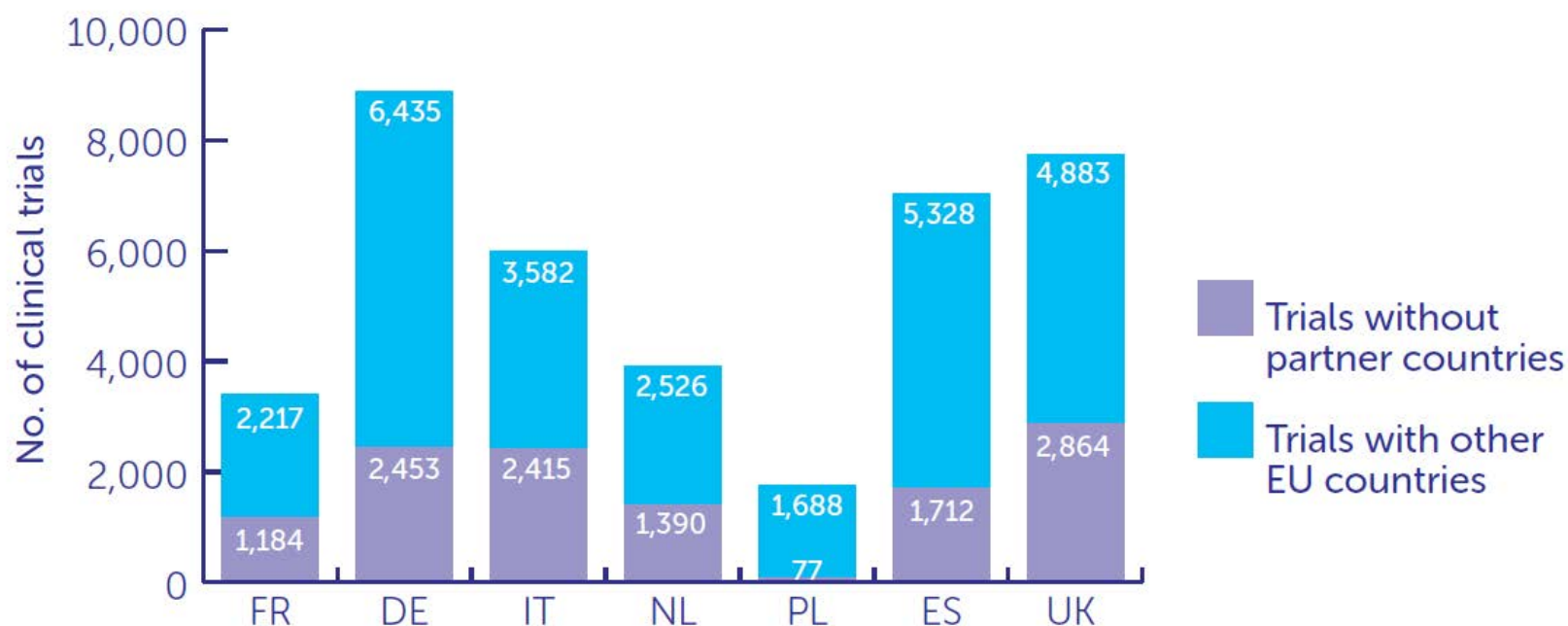


- 1. UK should negotiate continued access to funding**
- 2. UK's exit must not impact patients' participation in high quality research**
- 3. MHRA should continue to collaborate with EMA**
- 4. The UK government must clarify how adoption of EU regulations will impact on UK in order to reduce uncertainty and confusion**

THE IMPACT OF COLLABORATION:

The value of UK Medical Research to EU Science and Health

Number of clinical trials conducted by country with or without collaboration with other EU countries



Source: Technopolis Group; European Clinical Trials Database

Research by Technology group, May 2017,
Study co-funded by AMS, Arthritis Research UK, AMRC, BHF, CRUK, MRC, MQ

Scientific Community Post Brexit in UK, Europe and beyond

- **Time matters**
- **Uncertainty is poison**

Scientific Community Post Brexit in UK, Europe and beyond





©Thomas Hawk

15 September 2017

Brexit: retaining the UK's role in EU innovation

The UK government has published a science and innovation paper which outlines its position on how the UK can develop its future relationship with the EU.

<http://www.horizon2020projects.com/global-collaboration/brexit-retaining-uks-role-eu-innovation/>

UK's objectives for an agreement with the EU



- Published 6 September 2017
- Outlines the UK's objectives for an ambitious science and innovation agreement with the EU.
- It sets out examples of where the UK sees potential mutual benefit in a close working relationship, exploring precedents for each.
- The paper invites discussion with the EU on how best to shape our future partnership in this area.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/642542/Science_and_innovation_paper.pdf

UK's objectives for an agreement with the EU



Collaboration

- „... to b
on sci
seek a
will su
new and in the future“
- No details given
→ Will need to be discussed as part of Brexit negotiations
- oration
UK will
that
both

!!! Importance for UK !!!

European collaboration is particularly important in some fields, for example stratified medicine and rare diseases, as it provides access to large and diverse patient groups.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/642542/Science_and_innovation_paper.pdf

UK's objectives for an agreement with the EU



Mobility

- „... The agreement **should also facilitate bilateral and multilateral research relations** between the UK and the EU, and the UK **will continue to** **access** **the EU's research and innovation** technology. The Government has made clear that, although freedom of

→ No details given

→ Will need to be discussed as part of
Brexit negotiations

!!! Importance for UK !!!

UK wants to remain a hub for international talent, thus agreements for the mutual recognition of professional qualifications needed.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/642542/Science_and_innovation_paper.pdf

UK's objectives for an agreement with the EU

Framework Programmes

- „R&I innov nearly → Future association arrangements will be discussed as part of the EU's negotiations on the next Framework Programme
- „... as as EU → But no details (numbers) given

!!! Importance for UK !!!

The UK is a highly active participant in Horizon 2020. It ranks first across the EU in the number of participants with signed contracts.

Associated countries not involved in decision making.

UK's objectives for an agreement with the EU



EMA



- „... The UK Government's aim is to **ensure that patients in the UK and across the EU continue to be able to access the best and most innovative medicines**...
→ No details given
→ Will need to be discussed as part of Brexit negotiations
- „The UK will therefore look **to continue to work closely with the EMA and other international partners**. ...“

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/642542/Science_and_innovation_paper.pdf

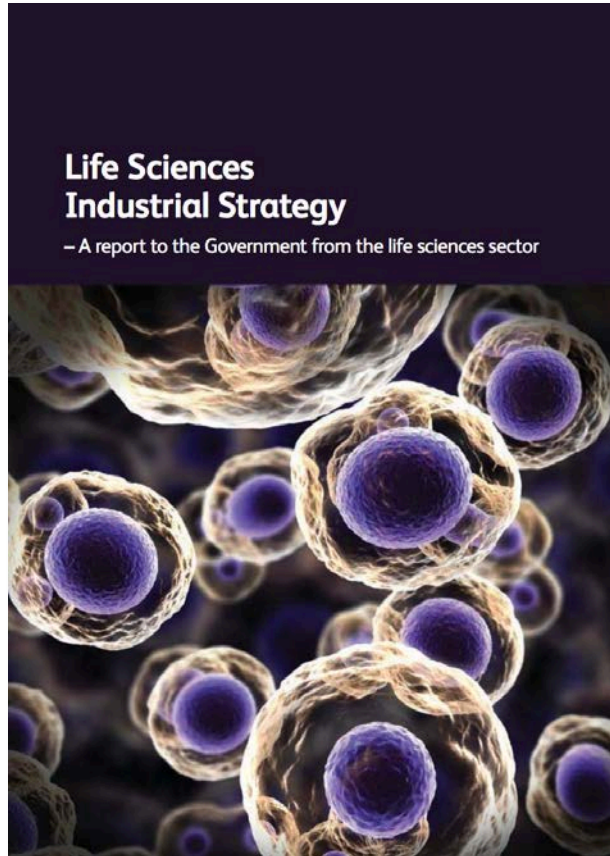
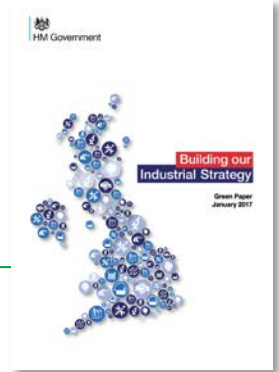


ERNs

- „... **The UK is a key player in European Reference Networks (ERNs)**, which support both clinical care and research. ... In addition, the UK and the EU work close health → **No details given**
→ **Will need to be discussed as part of Brexit negotiations**
- „The exam enables the EU to gain and share expertise. **The UK and the EU will need to consider future collaboration through EU RLs.**“

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/642542/Science_and_innovation_paper.pdf

UK's Industrial Strategy



- Published 30 August 2017
- Government-commissioned report, compiled by Professor Sir John Bell of Oxford University
- Supposed to form the blueprint for one of the first so-called sector deals — government programs to boost economic growth in certain U.K. industries, announced as part of Prime Minister Theresa May's Brexit vision.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/640696/life-sciences-industrial-strategy.pdf



Regulations

- Aim: Improve the speed and efficiency of UK clinical trial capabilities.
- Following aspects important for Brexit negotiations:
 - Common regulations for clinical trials
 - Close collaboration with EMA
 - Common use of patient data collected
 - Access to patients (over borders)

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/640696/life-sciences-industrial-strategy.pdf



Mobility

- Aim: access to highly skilled people from across Europe and the world
- Following aspects important for Brexit negotiations:
 - ➔ UK is highly dependent on a steady influx of international scientists and forecasts suggest that science sectors will cumulatively require 180000 to 260000 people by 2025.
 - Around 26% of academic staff in UK universities are non-UK national.
 - A migration system should be established that allows rapid recruitment and retention of highly skilled workers from the EU and beyond, and does not impede intra-company transfers.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/640696/life-sciences-industrial-strategy.pdf

News > Business > Business News

Brexit: Theresa May pledges £160m to healthcare research sector

Proposed plans from the Prime Minister suggest an increase in research and development over the next four years as Brexit looms

John Lauerma | Wednesday 30 August 2017 08:46 BST |  12 comments



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The Independent Online



Prime Minister Theresa May's plans to support the UK's health research industry is revealed AP

<http://www.independent.co.uk/news/business/news/brexit-latest-news-theresa-may-eu-healthcare-research-sector-european-union-life-sciences-economic-a7919621.html>

Brexit is a challenge for the scientific community

Written by Clare Moody on 5 May 2017 in Opinion

The UK must safeguard its academic and research cooperation with the EU beyond Brexit, writes Clare Moody.



Clare Moody | Photo credit: European Parliament audiovisual

<https://www.theparliamentmagazine.eu/articles/opinion/brexit-challenge-scientific-community>

27 Jul 2017 | Éanna Kelly, Science|Business | News

EU budget chief wants to protect research from cuts in 2021 - 2027 budget cycle

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Günther Oettinger says research should be the only programme spared spending cuts as the EU weighs how to make up for losing the UK's €11B per annum contribution



Günther Oettinger speaking at the European Commission's headquarters in Brussels

<https://sciencebusiness.net/framework-programmes/news/eu-budget-chief-wants-protect-research-cuts-2021-2027-budget-cycle>



The EU's Brexit negotiator Michel Barnier described Theresa May's speech as a welcome expression of a "willingness to move forward" but also called for more clarity | Tiziana Fabi/AFP via Getty Images

Michel Barnier: UK must explain 'precise negotiating position'

EU verdict on British prime minister's Florence speech: good but not nearly enough.

By DAVID M. HERSZENHORN, GIULIA PARAVICINI, FLORIAN EDER AND MAÏA DE LA BAUME | 9/22/17, 7:13 PM CET | Updated 9/22/17, 7:20 PM CET

<http://www.politico.eu/article/michel-barnier-uk-must-explain-precise-negotiating-position/>

May wanted a mandate for a hard Brexit. Now Europe expects a softer tone

Prime minister's crumbling authority offers a new chance for compromise - and the EU could scale back its demands



Theresa May's instincts are probably to keep pushing for a hard Brexit - but she lacks the parliamentary majority to do this. Photograph: Paul Marriott/Rex/Shutterstock

<https://www.theguardian.com/politics/2017/jun/10/may-mandate-hard-brexit-europe-expects-soft>

As Labour becomes party of soft Brexit, hard battles lie ahead

After a year of ambiguity on Europe, Jeremy Corbyn now has a clear platform from which to take on Theresa May



Remain voters gather in Parliament Square in July 2016, shortly after the EU referendum. Photograph: Neil Hall/Reuters

<https://www.theguardian.com/politics/2017/aug/26/labour-soft-brexit-jeremy-corbyn-theresa-may>



**Brexit-Flüchtlinge (refugees)
Welcome to Germany !**

So viele Briten wie noch nie haben die deutsche Staatsbürgerschaft erlangt - ein Plus von 361 Prozent.

<https://daily.spiegel.de/news/einbuengerung-ansturm-der-briten-a-12420>

Example of successful UK German collaboration



The voice of science must be loud and clear in Brexit negotiations

Stephen Curry

As Theresa May prepares to announce a 'clean Brexit', researchers must provide government, parliament and the country with a clear picture of the risks facing negotiators



THE GUARDIAN 17 Januar 2017

Scientific Community Post Brexit in UK, Europe and beyond

VISION and MISSION

- The scientific community of Europe has to stand up and fight for the future
- Biomedical Research and Health do not respect borders
- International collaboration and networking is a must
- For everybody in biomedical research
- and for our patients

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Scientific Community Post Brexit in UK, Europe and beyond



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