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MARCH 15 2019

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Mishcon de Reya

# Brexit & UK Update

Nina O'Sullivan  
Legal Director



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# WITHDRAWAL AGREEMENT / NO DEAL

## THE OPTIONS

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- Draft Withdrawal Agreement provides for a transitional period until December 31 2020:
  - EU laws will continue to apply in the UK during transitional period
  - European Court of Justice (CJEU) will determine cases referred from UK courts where case filed before end transitional period
  - Terms of future relationship (including IP) to be determined (see Political Declaration)
- ‘No deal’ by March 29 2019:
  - UK Government has put in place legislation to deal with no-deal situation which will come into force on Exit Day
- Extension of Article 50 notification / revocation of Article 50?

- In both deal or no-deal scenario:
  - On Exit / end of transition, UK will adopt EU law as it exists at that point into UK law as ‘retained EU law’ (as revised to deal with any deficiencies)
  - Existing CJEU decisions will have same precedential value as Supreme Court decisions, and future CJEU decisions may still be taken into account by UK Courts
  - Over time, however, legislature and Courts may move away from EU law?



**WHAT DOES BREXIT  
MEAN FOR IP RIGHTS?**

- Significant body of IP law and practice in the UK derives from the EU, through Regulations (which are directly applicable in the UK), Directives (which must be implemented through legislation in the UK), and CJEU decisions
  
- Business as Usual:
  - Most existing EU IP laws will be preserved in the UK on Exit / end of transition as ‘retained EU law’
  - CJEU decisions will continue to be relevant (both in a deal / no deal scenario)
  - Protection and enforcement of European Patents is not affected by Brexit
  - Unitary IP rights (EU Trademarks and Designs) will be preserved in the UK as comparable UK rights

- Businesses will need dual protection for trademarks and designs in the UK and EU, and take different territories into account in their enforcement strategies
- Possibility of future divergence by UK judges in interpreting EU IP laws
- UK's approach to alignment with future EU regulation may change over time
- UK's involvement in UPC/Unitary Patent project (and ultimate success of project as a whole) remains to be resolved



**PATENTS**

- Existing system for obtaining European Patents at the European Patent Office, and enforcing them, will not change post-Brexit. The UK will remain a member of the European Patent Convention.
- EU harmonisation has been limited in relation to patents. Relevant EU legislation will be retained in UK law:
  - Supplementary Protection Certificates
  - Patenting of biotechnological inventions
  - Exceptions from infringement re certain studies, trials and tests concerning pharmaceutical products
- SPC regime will operate as before, but holders/applicants for SPCs should be aware of any changes to related regulatory processes (nb. SPC system under review at EU level)



- UK ratified UPC Agreement in April 2018, but constitutional challenge in Germany remains outstanding (ratification by Germany is expected if challenge fails).
- If regime comes into force before UK leaves EU (i.e., during a transitional period), UK will “*explore whether it would be possible to remain within the Unified Patent Court and unitary patent systems*”.
- If regime comes into force before UK leaves EU, but UK later needs to withdraw:
  - Businesses will not be able to use the UPC and Unitary Patent to protect their inventions in the UK, but could continue to do so in the contracting EU countries
  - Any existing Unitary Patents will be converted to equivalent UK patent protection



**EU TRADEMARKS &  
REGISTERED COMMUNITY  
DESIGNS**

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# EXISTING EU TRADEMARK AND DESIGN REGISTRATIONS

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- Comparable UK right will be created automatically for no charge on Exit / end of transition ('cloned UK right')
- Can opt out of receiving new right if have not used cloned UK right in the UK
- Cloned UK right will have same renewal date, and same filing/priority date as existing EU right (and where appropriate seniority):
  - Pay renewal fees for the cloned UK right separately
- No certificate of registration. Number allocated will be last 8 digits of EUTM prefixed with UK009 e.g., UK00917867542

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# EXISTING EU TRADEMARK AND DESIGN REGISTRATIONS

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- Use of cloned UK trademark:
  - Where relevant five year period for use includes time prior to Exit day, use anywhere in the EU will be considered
  - Where relevant period includes any time after Exit day, will only take into account use of mark in the UK
- Similar approach to reputation assessment

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# EXISTING EU TRADEMARK AND DESIGN REGISTRATIONS

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- Licences, security interests and assignments:
  - Subject to terms of agreement, licence/security interest in respect of EUTM will apply to cloned UK right. Check whether:
    - You need to notify licensee, and that creation of new right doesn't amount to a breach
    - Licence/security interest should be registered at UKIPO (12 months after exit day)
  - If assignment of EUTM not registered at EUIPO, can register in relation to cloned UK right at UKIPO
  - Consents, co-existence agreements in relation to EUTM will continue to apply to cloned UK right (unless agreement indicates otherwise)

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# PENDING EU TRADEMARK AND DESIGN APPLICATIONS

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- Grace period of 9 months post-exit day to apply for equivalent right in the UK, taking advantage of the same filing and priority dates (and any claims to seniority):
  - Must pay UK fee and application will be examined afresh
  - Will not be notified of the need to make a UK application: diarise and be wary of opportunistic filings/scam notices
- Monitor position in relation to whether there is a possible transition period under draft Withdrawal Agreement, and decide what action to take in relation to pending applications (be prepared to re-file on Exit / end of transition)

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# NEW EU TRADEMARK AND DESIGN APPLICATIONS

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- New EU trademark applications before Exit: consider ‘double filing’ (UK + EU application) in appropriate cases
- New EU design applications before Exit: may obtain registration before 29 March 2019, and so double filing may not be necessary
- Otherwise, re-file in the UK post-Exit and rely upon priority of EU application in 9 month window post-Exit
- And, may not be necessary if there is a transition period



**UNREGISTERED RIGHTS**



- Holders of unregistered Community designs arising before Exit day (or end transition) will be accorded an equivalent UK right with same remaining term of protection
- UK will create a new UK unregistered design right (the 'supplementary unregistered design right') which will mirror the characteristics of EU right
- Question mark over rules relating to first disclosure in relation to both rights mean businesses marketing their designs internationally may need to obtain registered protection in both the UK and EU, or consider 'simultaneous disclosure' e.g., live streaming, online etc

- Copyright is only loosely harmonised at EU level. Draft Exit legislation will revise cross-border mechanisms.
- Database right:
  - Existing rights will not be affected, but only UK residents and businesses will be eligible for new database right in the UK post-Exit
  - UK businesses will no longer be able to receive or hold database rights in the EEA post-Exit

# OTHER ISSUES

- Ongoing oppositions/cancellation proceedings:
  - At EUIPO:
    - Earlier UK rights will be irrelevant, including in existing proceedings (according to EUIPO)
    - Assume fresh cancellation proceedings must be filed before UKIPO in relation to cloned UK right
  - At UKIPO: Earlier EU rights can continue to be relied upon in existing proceedings
  
- Ongoing Court proceedings in UK re EUTMs/RCDs:
  - Will continue in relation to the cloned UK right but remedies/findings of invalidity limited to cloned UK right
  
- Existing pan-EU injunctions:
  - Will continue to apply in the UK post-Exit to cloned UK right.
  - Not clear whether EU27 will continue to uphold pan-EU injunction granted by UK court before Exit

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- UK will unilaterally apply the EEA regional exhaustion regime from Exit day so there will be no change to exhaustion rules relating to imports into the UK from EEA
  - However, if goods are parallel imported into the EEA from the UK, EUTMs may be infringed (i.e., rights will not be exhausted) ('one way exhaustion')
  - UK Government describes this as a 'temporary fix' and intends to consult on future exhaustion regime: national, regional, international exhaustion?

- Post-Exit, unless agreement reached:
  - Rights holders will need to submit separate applications for action (AFAs) to UK and EU Customs Authorities
  - Existing AFAs:
    - Covering the EU filed via another EU27 customs authority: will need to file separate AFA in the UK (but existing AFA remains valid in EU27)
    - Covering the EU filed via UK customs authority: will need to file separate AFA in the EU covering EU27



# STEPS TO CONSIDER

- Review EU trademark and designs portfolio:
  - Existing registrations, pending and planned applications, renewals etc
  - Review use and reputation aspects of existing EUTMs and future cloned UK rights
  - Ensure representatives have rights before EUIPO
- Unregistered designs: identify where would currently rely upon Unregistered Community Designs and consider registrations/simultaneous disclosure
- Review anti-counterfeiting strategy: duplicate UK and EU27 AFAs after exit in a No Deal scenario
- Audit agreements, including aspects relating to IP rights, dispute resolution provisions etc
- Ensure you are in an optimum position on Exit, e.g., in relation to increased record keeping, as a result of new rights, and potentially increased levels of disputes before both UKIPO and EUIPO



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# QUESTIONS?

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# ANNEX

# THE DRAFT WITHDRAWAL AGREEMENT & POLITICAL DECLARATION

- [Draft Withdrawal Agreement](#) (as at November 25 2018) provides for a transition period (or ‘implementation period’) until December 31 2020 (may be extended by up to 1-2 years):
  - Most EU laws will continue to apply to UK during transition period
  - Retains jurisdiction of CJEU over UK (including in cases pending at CJEU at end of transition period)
  - UK will be able to negotiate, sign and ratify FTAs, but these cannot enter into force until after transition without EU agreement

# POLITICAL DECLARATION: FUTURE RELATIONSHIP

- **Economic partnership:** ambitious, wide-ranging and balanced economic partnership encompassing a free trade area and wider sectoral cooperation where in mutual interest:
  - **Goods:** as close as possible trading relationship, with a view to facilitating the ease of legitimate trade ... comprehensive arrangements that will create free trade area, combining deep regulatory and customs cooperation
  - **Tariffs:** no tariffs, fees, charges or quantitative restrictions across all sectors with ambitious customs arrangements ...
  - **Regulatory:** preserve regulatory autonomy but provisions to promote regulatory approaches that are transparent, efficient, promote avoidance of unnecessary barriers to trade in goods and are compatible to the extent possible. ... The UK will consider aligning with EU rules in relevant areas
  - **Customs:** ambitious customs arrangements...

**Political Declaration** sets out over-arching principles and shared values and interests, in the event that the Withdrawal Agreement is agreed.

It establishes the parameters of an 'ambitious, broad, deep and flexible partnership' BUT repeats key 'red lines' of both the UK and EU

# NO DEAL PREPARATIONS

“Delivering the deal negotiated with the EU remains the government’s top priority. This has not changed.

However, as a responsible government we have spent more than two years carrying out extensive preparations for all scenarios, including no deal. . . .

. . . We have now reached the point where we need to accelerate and intensify these preparations. . . . We recommend businesses now also ensure they are prepared and enact their own no deal plans”.

UK Government’s Guidance, December 2018

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# NO DEAL

## EU NOTICES (SELECTED)

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- [Notice to Stakeholders re SPCs](#)
- [Notice to Stakeholders re EUTMs and Community Designs](#)
- [Q&A re Impact of withdrawal on EUTM and Community Designs](#)
- [Notice to Stakeholders re Copyright](#)
- [Notice to Stakeholders re Customs Enforcement](#)
- [Notice to Stakeholders re .eu Domain Names](#) and [EURid Guidance](#)

# NO DEAL

## UK GOVERNMENT GUIDANCE

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- [Patents Technical Notice](#) and [Guidance on Changes in the Law](#)
- [Trade Marks and Designs Technical Notice](#) and [Guidance on Changes in Trade Mark Law](#)
- [Copyright Technical Notice](#) and [Guidance on Changes in the Law](#)
- [Exhaustion of IP rights](#)
- [Geo-blocking of online content](#)
- [Guidance on .eu domain names](#)
- [Handling civil legal cases](#)



- [The Patents \(Amendment\) \(EU Exit\) Regulations 2018 \(draft\)](#)
- [The Trade Marks \(Amendment etc\) \(EU Exit\) Regulations 2019](#)
- [The Intellectual Property \(Exhaustion of Rights\) \(EU Exit\) Regulations 2019](#)
- [The Customs \(Enforcement of Intellectual Property Rights\) \(Amendment\) \(EU Exit\) Regulations 2019](#)
- [The Intellectual Property \(Copyright and Related Rights\) \(Amendment\) \(EU Exit\) Regulations 2018 \(draft\)](#)
- [The Designs and International Trade Marks \(Amendment etc\) \(EU Exit\) Regulations 2019 \(draft\)](#)

These Regulations have been drafted to deal with the No Deal scenario.

We assume that aspects of them will remain relevant if an Agreement is reached, with the relevant laws coming into force at the end of the transition period (however, it is possible they will be subject to further revision).

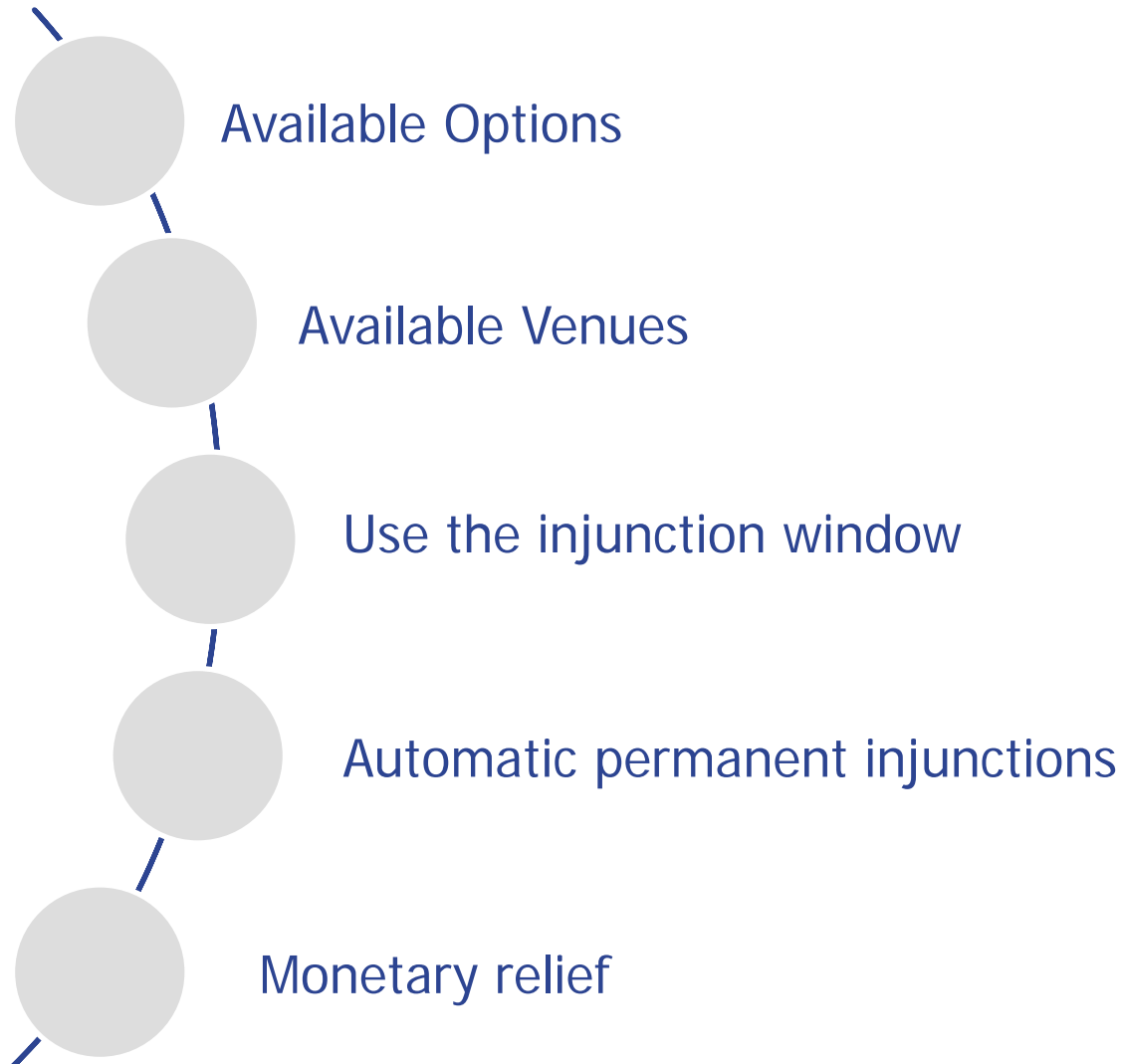
# MEISSNER BOLTE

## Key Aspects of German IP Litigation

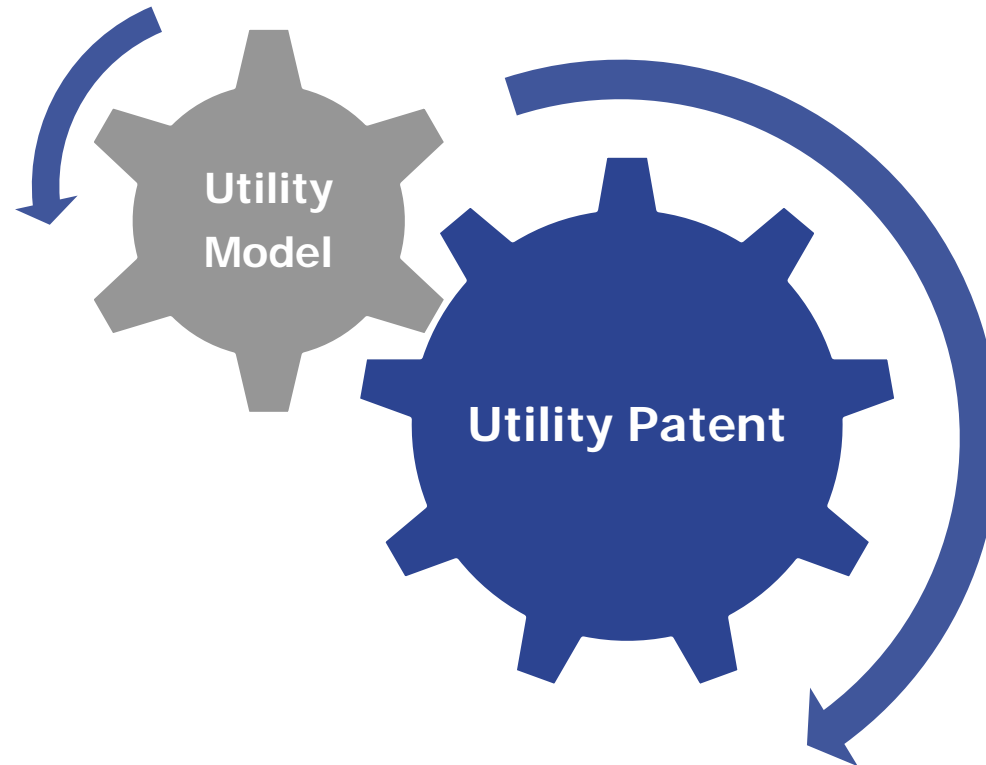
Dr. Tobias Wuttke



## Agenda

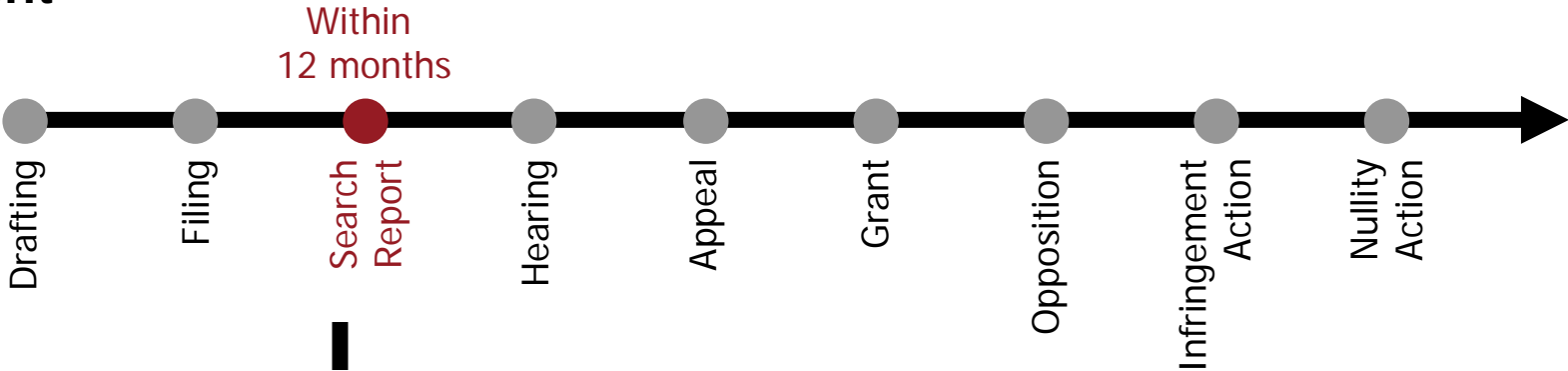


## Available Options

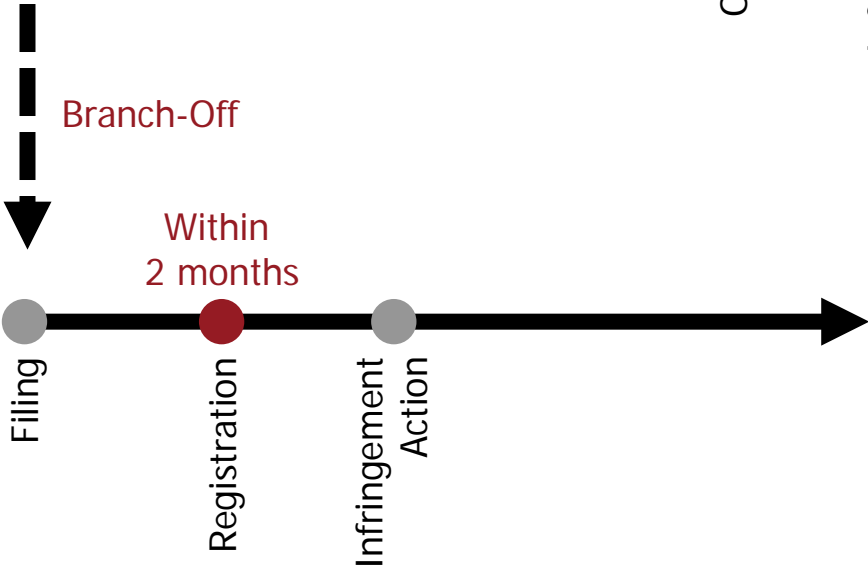


The "branch-off" of a German Utility Model

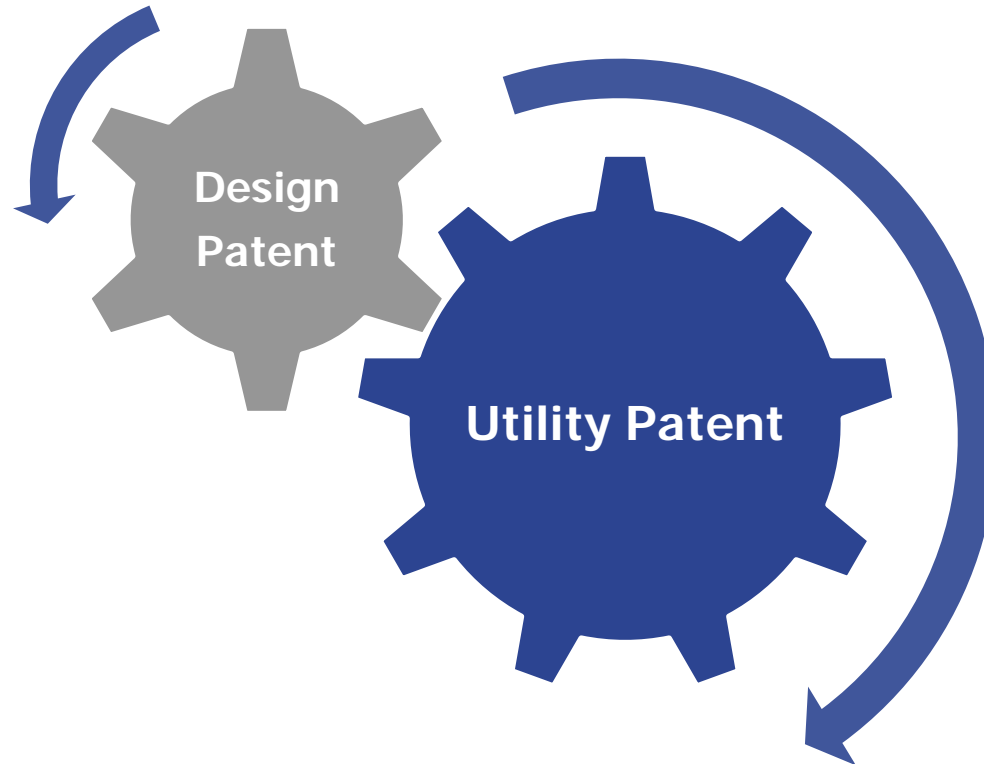
Patent



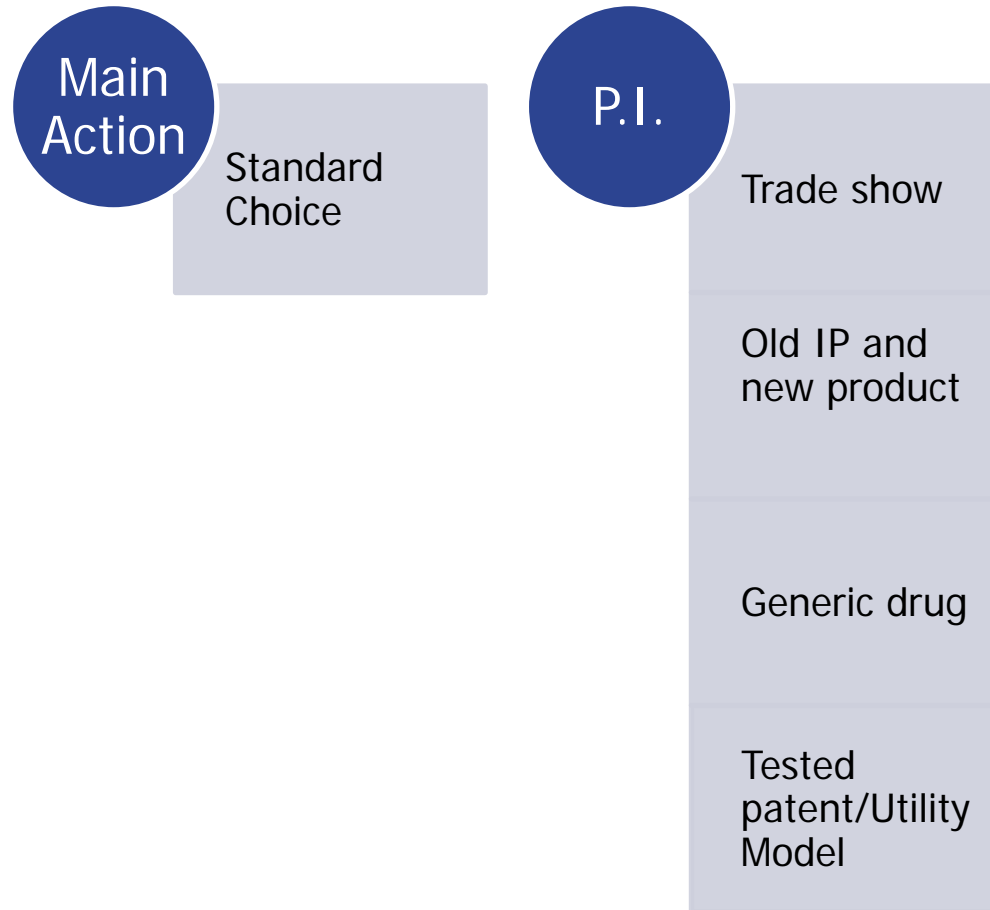
Utility Model



## Available Options



## Available Options



## Available Venues





## Available Venues

### Overview: The relevant (patent) judges at District Court Level

Düsseldorf: Standard choice for utility patents

- Chamber 4a: Mr Crummenerl
- Chamber 4b: Mr Voß **(most patentee friendly judge in Düsseldorf)**
- Chamber 4c: Ms Klepsch

Mannheim: Rocket docket

- Chamber 2: Mr Kircher
- Chamber 7: Mr Tochtermann **(most patentee friendly judge in Mannheim)**

Munich: Standard choice for utility models

- Chamber 7: Mr Zigann **(most patentee friendly judge in Germany)**
- Chamber 21: Mr Pichelmaier (recently appointed since January 2017 => very good development)

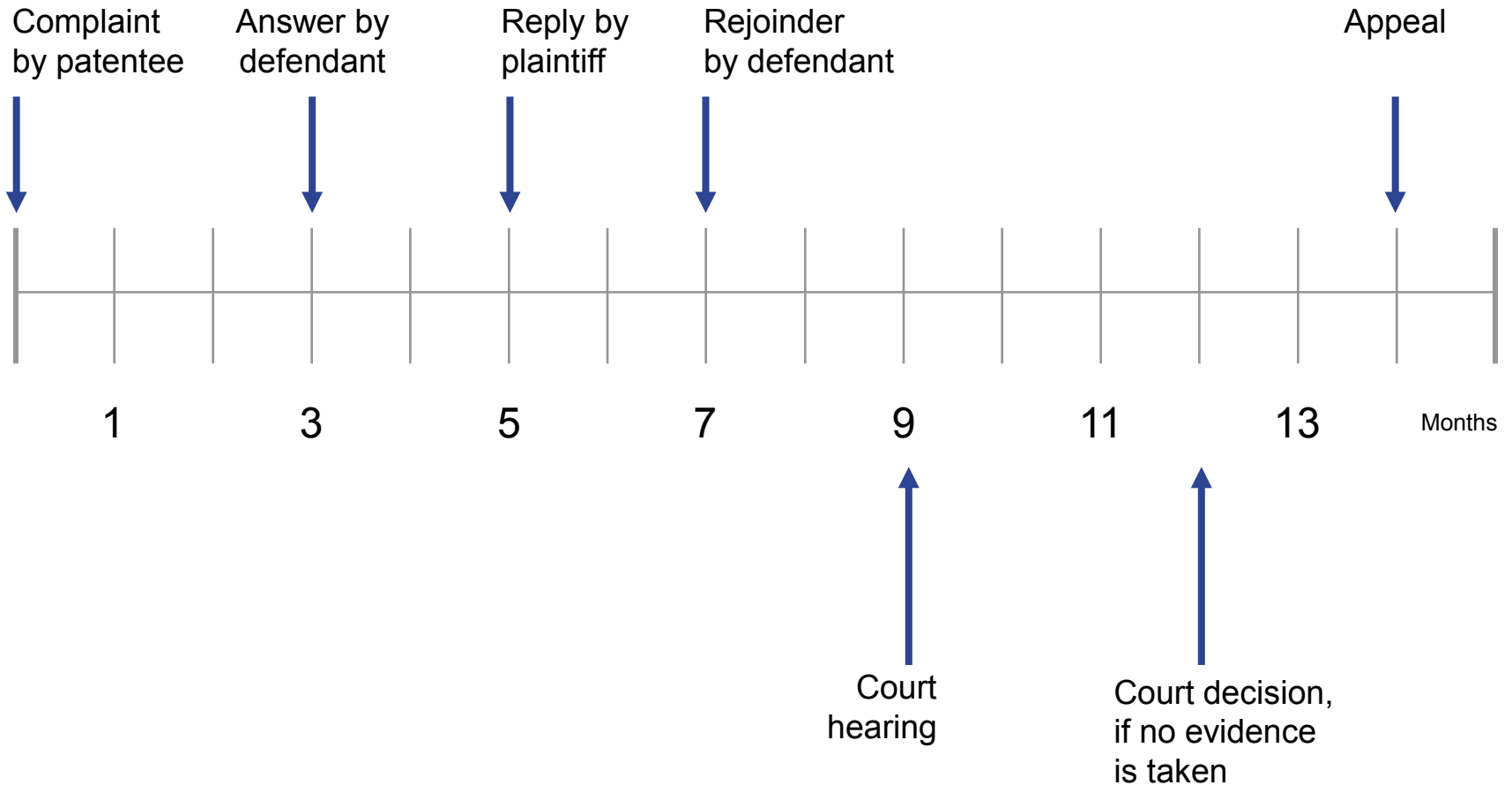
Success rates: no official statistics => court documents are confidential



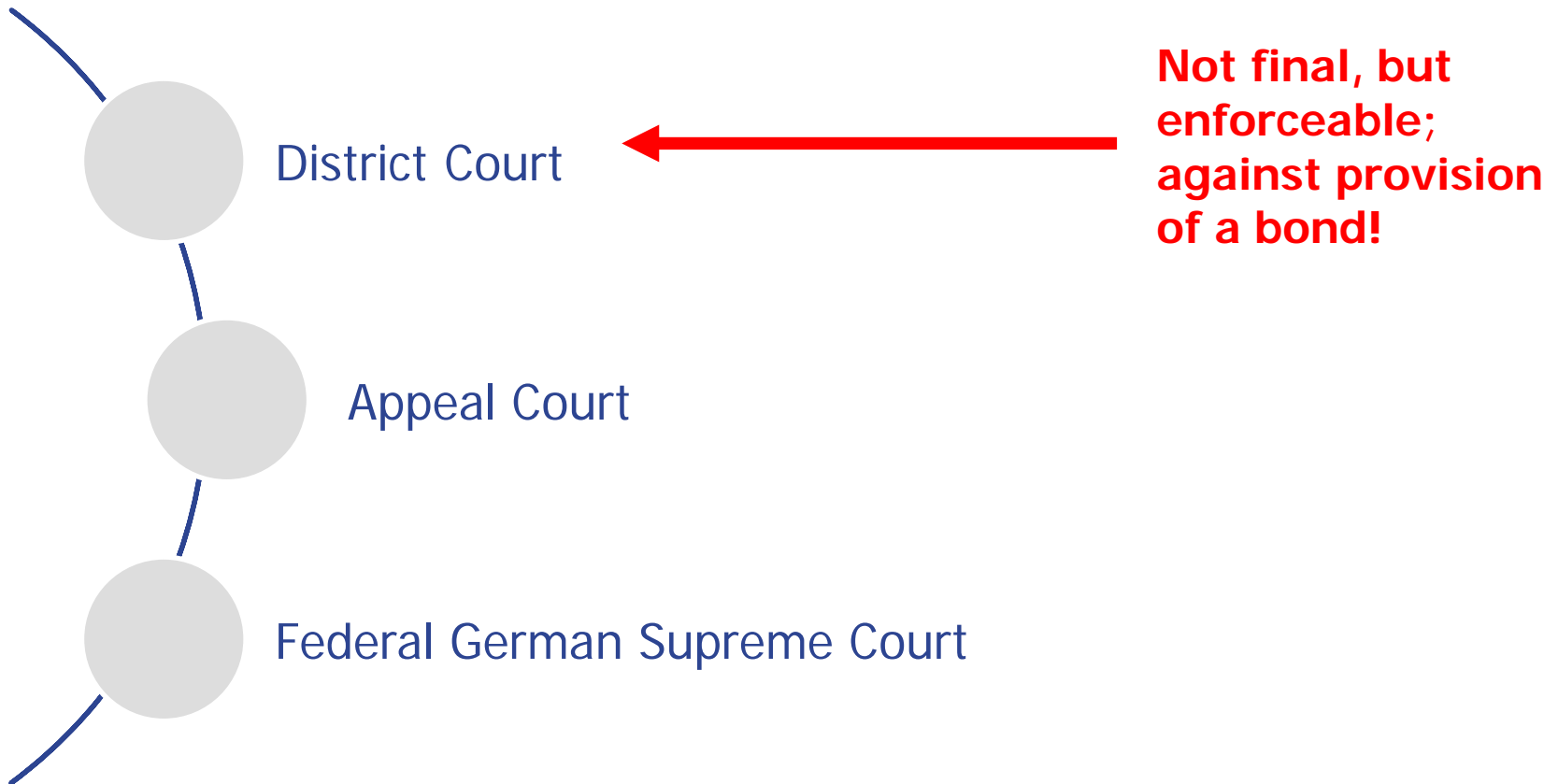
Bifurcation = injunction window = early worldwide settlement



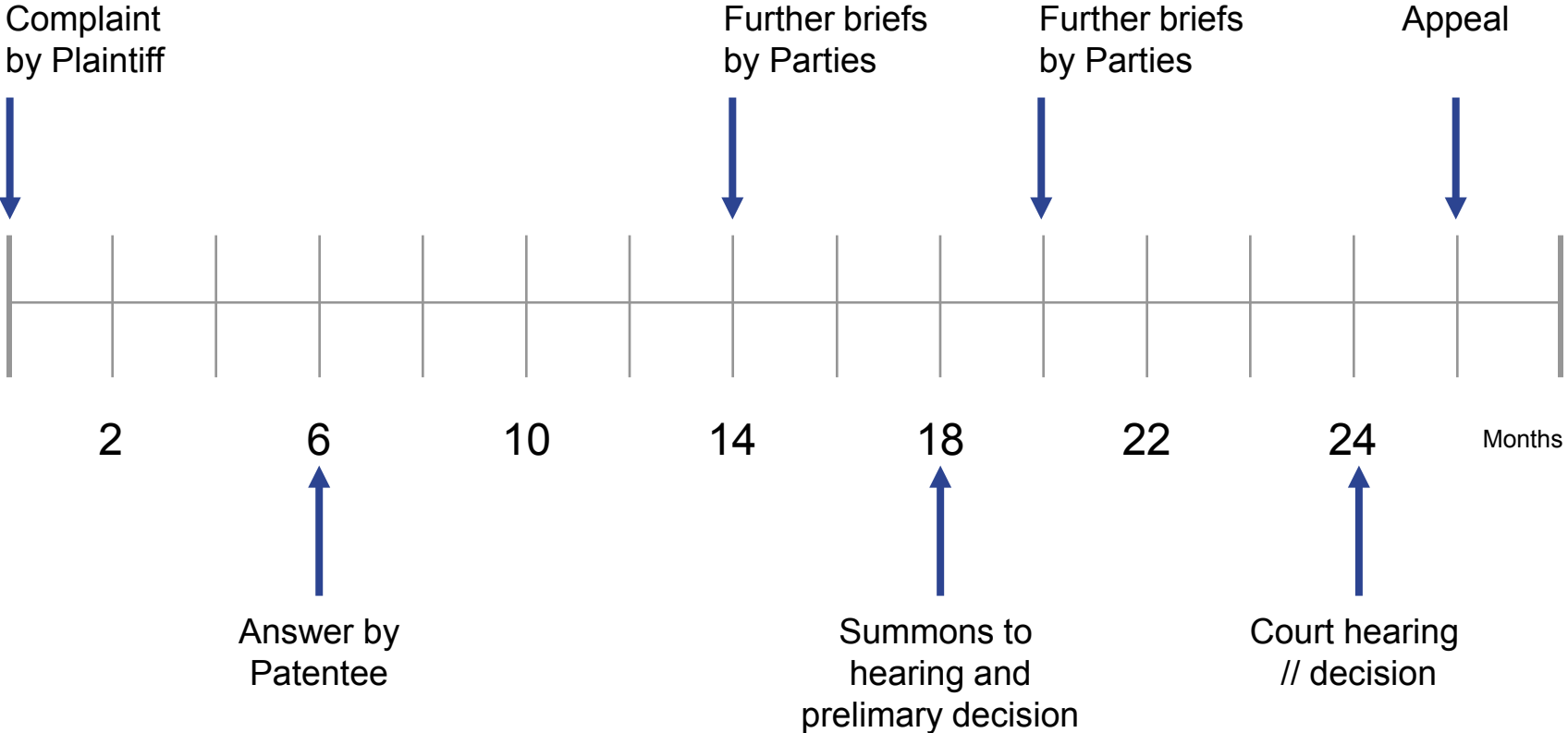
## Bifurcation: Timeline Infringement Court



## Bifurcation: Enforceability of 1<sup>st</sup> instance decision



## Bifurcation: Timeline Nullity Action Federal Patents Court



## Stay of Proceedings

**District Court Düsseldorf:** 31.03.2016, 4a O 73/14

*Therefore and because the judges at the civil court are no technical experts a stay of proceedings is only possible if the the invalidation of the patent in dispute is **sufficient likely**. If **novelty** destroying prior art is reviewed, the stay is only possible if the anticipation of all features **is so clearly apparent that no substantial doubts may exist**. If **lack of inventive step or undue broadening** (= added-subject matter) is invoked as a nullity ground, a stay is not possible if at least still **reasonable arguments exist that the patent in dispute is inventive and/or not unduly broadened**.*



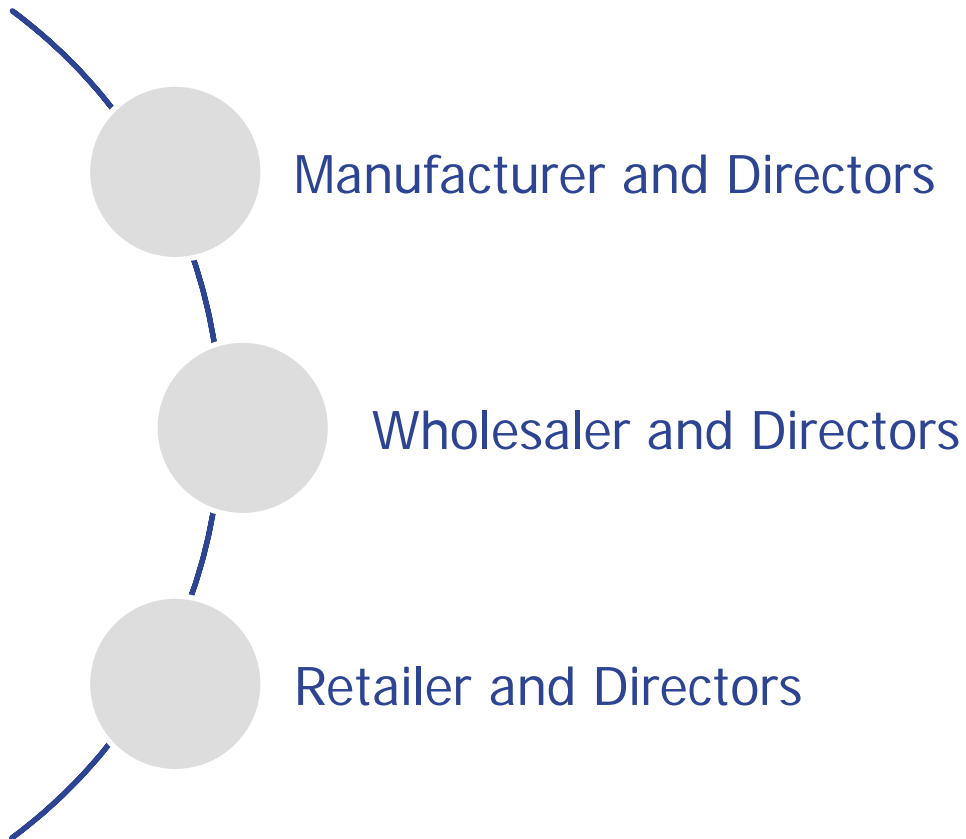
## Remedies: automatic permanent injunctions

- Injunction (no exception)
- Information/Rendering accounts
- Damages
- Destruction/Recall
- Removal from distribution chain
- Publication of decision



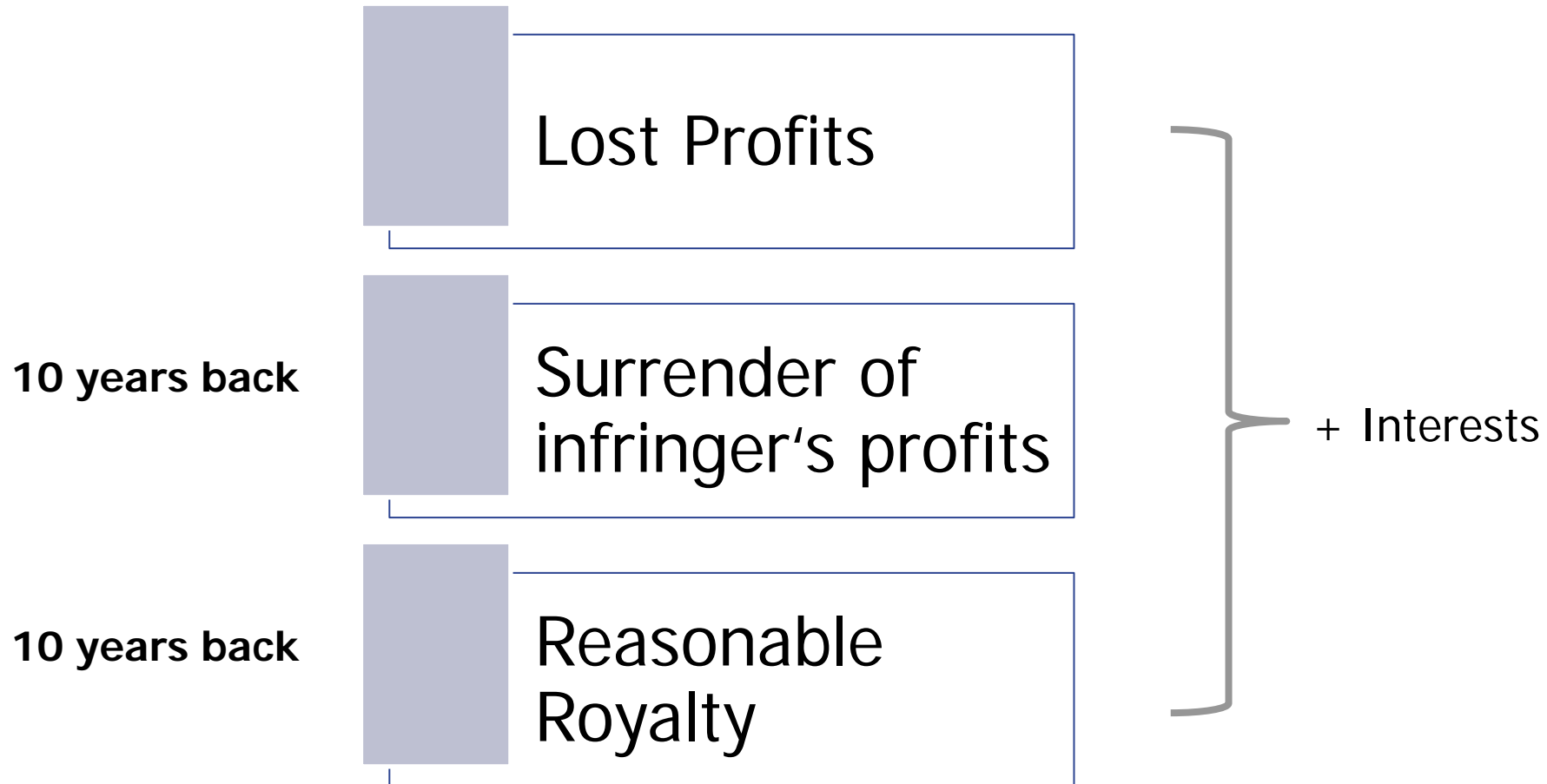
**Note**: Automatic permanent injunctions => also for NPEs

## Cumulative Liability





High monetary relief = no awards, but settlements



Is it cheap?

## Infringement Action

- Court fees: EUR 25-40k
- Attorney fees: EUR 100-150k

## Nullity Action

- Court fees: EUR 35-50k
- Attorney fees: EUR 100-150k



# MEISSNER BOLTE



Thank you for you Attention!

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# The rapidly evolving IP laws of China – opportunities and threats

Jeffery P. Langer, PhD, JD

Sterne, Kessler, Goldstein & Fox P.L.L.C.  
March 15, 2019

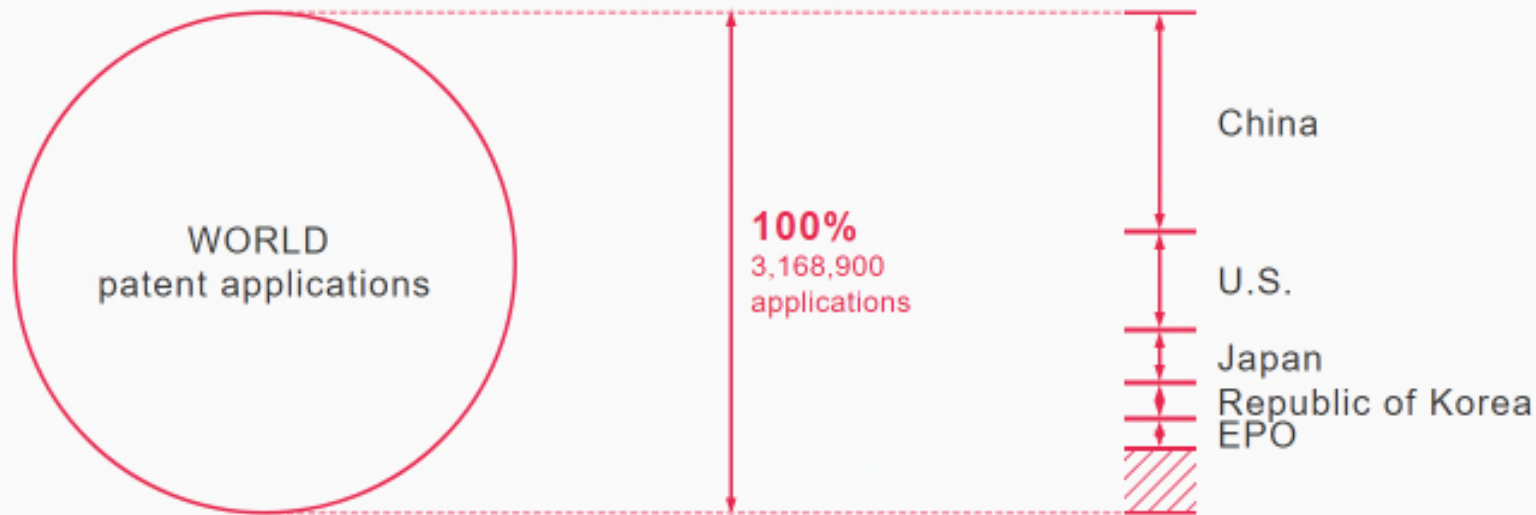


危機

The “characters for crisis are danger and opportunity” myth

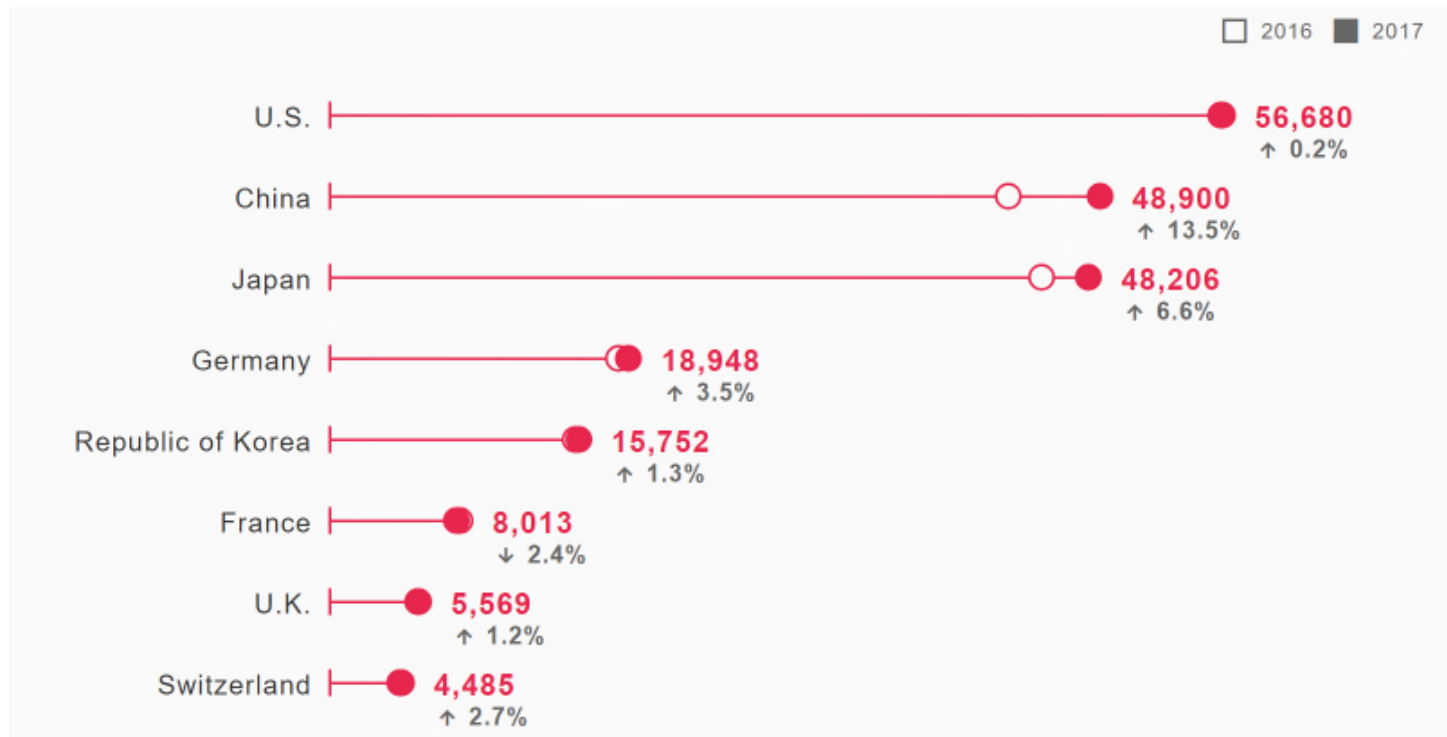
# World patent applications - 2017

43% of total worldwide filings



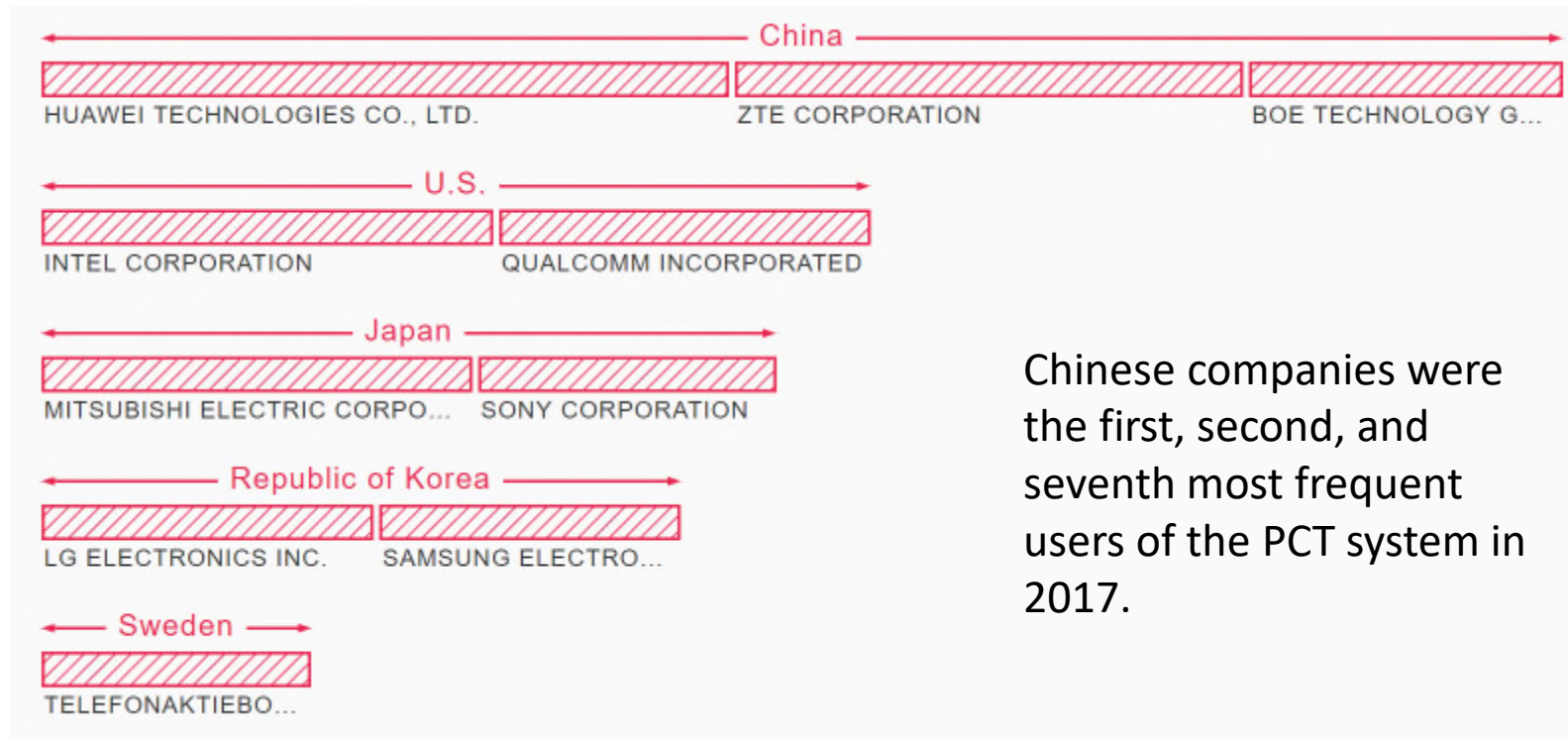
Data from WIPO - <https://www.wipo.int/edocs/infogdocs/en/ipfactsandfigures2018/>

# Top PCT filings by country - 2017



Data from WIPO - <https://www.wipo.int/edocs/infogdocs/en/ipfactsandfigures2018/>

# Top PCT filings by company - 2017



Chinese companies were the first, second, and seventh most frequent users of the PCT system in 2017.

Data from WIPO - <https://www.wipo.int/edocs/infogdocs/en/ipfactsandfigures2018/>



## Utility model filings - 2017

	2016	2017	Percentage change	World share %
Worldwide	1,553,280	1,761,200	--	100.0
China	1,475,977	1,687,593	--	95.8
Germany	14,030	13,301	-5.2	0.8
Russian Federation	11,112	10,643	-4.2	0.6

Data from WIPO - <https://www.wipo.int/edocs/infogdocs/en/ipfactsandfigures2018/>

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## Industrial design - 2017

	2016	2017	Percentage change	World share %
Worldwide	1,240,600	1,242,100	--	100.0
China	650,344	628,658	--	50.6
EUIPO	104,522	111,021	6.2	8.9
Rep. of Korea	69,120	67,357	-2.6	5.4

Data from WIPO - <https://www.wipo.int/edocs/infogdocs/en/ipfactsandfigures2018/>

## Industrial design - 2017

	2016	2017	Percentage change	World share %
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## Trademark filings - 2017

	2016	2017	Percentage change	World share %
Worldwide	9,771,400	12,387,600	26.8	100.0
China	3,697,731	5,739,823	55.2	46.3
USA	545,279	613,921	12.6	5.0
Japan	451,144	560,269	24.2	4.5

Data from WIPO - <https://www.wipo.int/edocs/infogdocs/en/ipfactsandfigures2018/>

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# Specialized IP Courts



- Technical and legally trained judges specializing in intellectual property matters
- IP courts in Beijing, Shanghai, and Guangzhou formed in 2014
- 18 IP tribunals with providential, city, or municipality jurisdiction formed between 2017 and 2018 including important commercial areas such as Shenzhen
- Three year trial period for an IP appellate court at the Supreme Court level as of beginning of 2019

# Addressing historic challenges – revisions to China's IP laws

## Challenges

- Low statutory damages

## Solutions

- New, higher amounts\*
  - Proposed for patent infringement 100K RMB (~\$14K USD) to 5M RMB (~\$750K)
  - Current range is 10K RMB (~\$1,400) to 1 M RMB (~\$150K)

\* = proposed changes



# Addressing historic challenges – revisions to China's IP laws

## Challenges

- Low statutory damages
- Very limited discovery making evidence gathering challenging

## Solutions

- New, higher amounts\*
- Increased powers of the courts to assist plaintiffs in bringing successful litigation and burden shifting to defendant on damages

\* = proposed changes

# Addressing historic challenges – revisions to China's IP laws

## Challenges

- Low statutory damages
- Very limited discovery
- Challenges in enforcing judgments

## Solutions

- New, higher amounts\*
- Increased powers to the courts
- Means to compel entities and persons to comply with a court's judgment \*

\* = proposed changes

# Addressing historic challenges – revisions to China's IP laws

## Challenges

- Low statutory damages
- Very limited discovery
- Challenges in enforcing judgments
- Serial and willful infringers

## Solutions

- New, higher amounts\*
- Increased powers to the courts
- Means to compel\*
- Enhanced penalties for repeated or willful infringing activities\*

\* = proposed changes

# Addressing historic challenges – revisions to China's IP laws

## Challenges

- Low statutory damages
- Very limited discovery
- Challenges in enforcing judgments
- Serial and willful infringers
- Lack of transparency on decisions and basis of decision making

\* = proposed changes

## Solutions

- New, higher amounts\*
- Increased powers to the courts
- Means to compel\*
- Enhanced penalties\*
- Publication of all cases upon final decision by courts

# Danger and opportunity myth redux



- Chinese courts issuing decisions consistent with international norms . . . and increased likelihood of litigation brought by one international company against another in China?
- Increasing ability to stop infringement by Chinese manufacturers . . . and anyone else manufacturing in China?
- Enhanced penalties for willful infringement . . . and increased exposure for any parties manufacturing and selling in China?
- Thicket of rights emerging from China . . . and increased opportunities for tech transfer?

# Contact Information

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# Innovation and IP as Technologies Converge

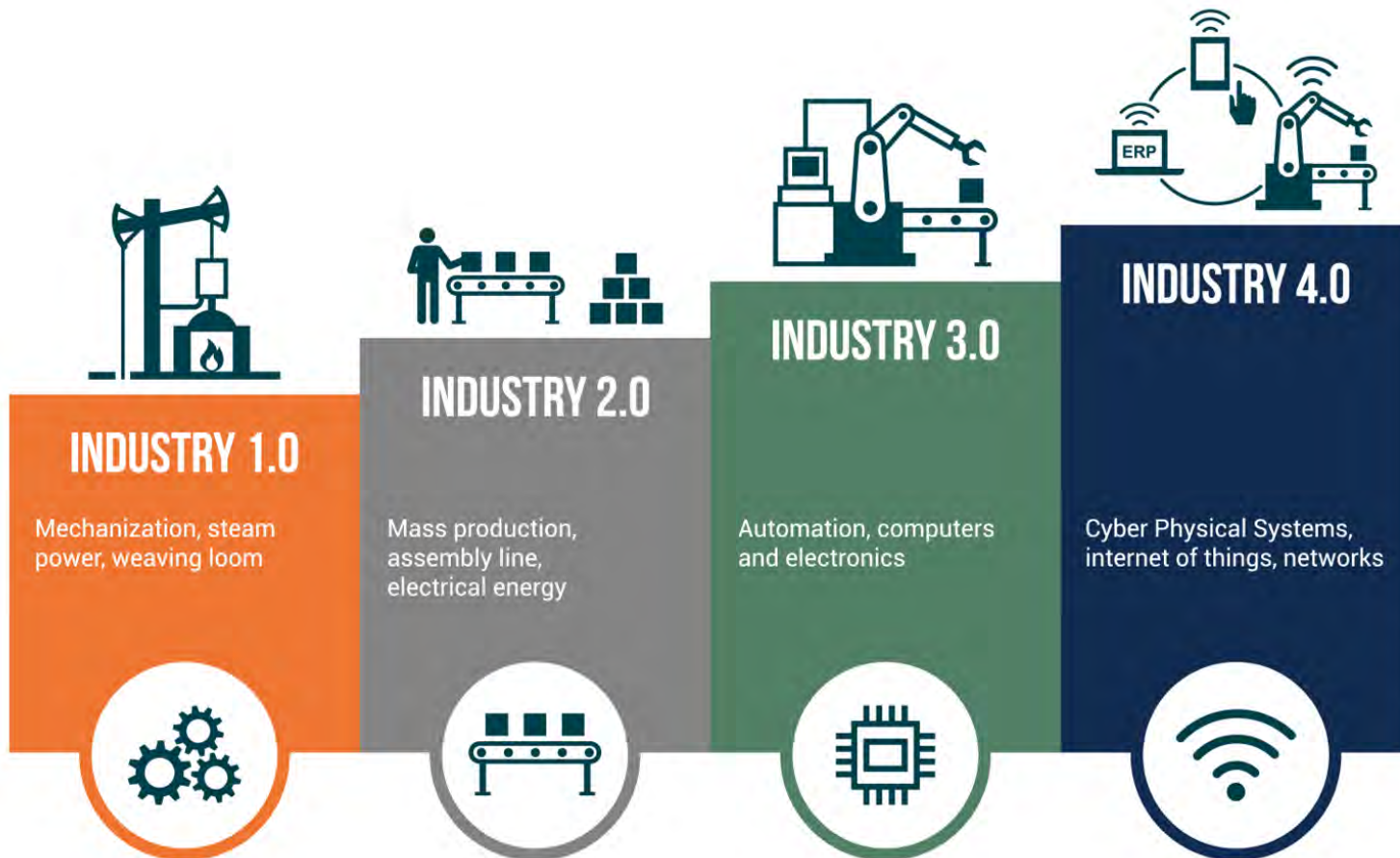
Walter G. Copan, Ph.D.

Under Secretary of Commerce for Standards and Technology &  
Director, National Institute of Standards and Technology (NIST)

Global IP Strategy Conference  
March 15, 2019



# Fourth Industrial Revolution



Convergence of advancing technologies together with precision measurements and standards enabling:

- Fourth Industrial Revolution
- Industrie 4.0
- Internet of Things
- Cyber-Physical Systems



# Technology Convergence



## Look around ...



### **Invention and Innovation**

Humans + Computation + Data +  
Machines + Sensing + Networks +  
AI / ML + Supply Chains + ...

- Advanced Communications
- Smart Manufacturing
- IoT → IoEverything
- Autonomous Vehicles / Transport
- Quantum
- Materials Genome
- Biosciences
- Measurement Dissemination
- Smart Homes
- Personalized & Remote Medicine
- Modern Agriculture
- ...

# NIST Mission

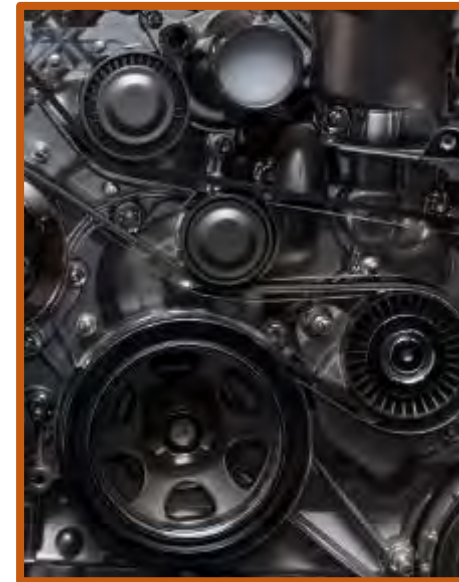
To promote U.S. innovation and industrial competitiveness by advancing **measurement science, standards, and technology** in ways that enhance economic security and improve our quality of life.



World-Leading Scientific and Engineering Research



Advanced Manufacturing National Programs



Technology Transfer and U.S. Innovation



# NIST AT A GLANCE

## Industry's National Laboratory



**3,400+**  
FEDERAL  
EMPLOYEES



**5**  
NOBEL PRIZES



**2 CAMPUSES**  
GAITHERSBURG, MD [HQ]  
BOULDER, CO



**3,900+**  
ASSOCIATES



**11**  
COLLABORATIVE  
INSTITUTES



**thousands**  
OF BUSINESSES USING  
NIST FACILITIES



NATIONAL OFFICE  
COORDINATING 15  
MANUFACTURING  
INSTITUTES

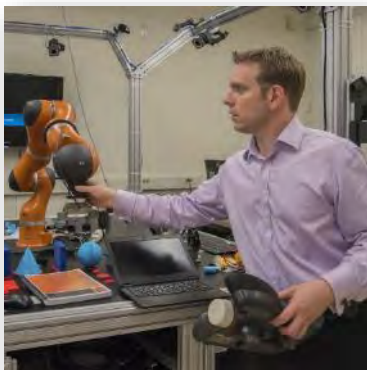


**51**  
MANUFACTURING  
EXTENSION  
PARTNERSHIP CENTERS



U.S. BALDRIGE  
PERFORMANCE  
EXCELLENCE PROGRAM

# Programmatic Priorities



Advanced  
Manufacturing



Cybersecurity &  
Privacy



Disaster  
Resilience



© Matt DeLorme

Engineering  
Biology



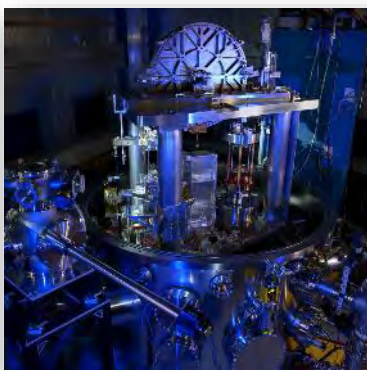
Internet of  
Things



Documentary  
Standards



Technology  
Transfer



Measurement  
Dissemination



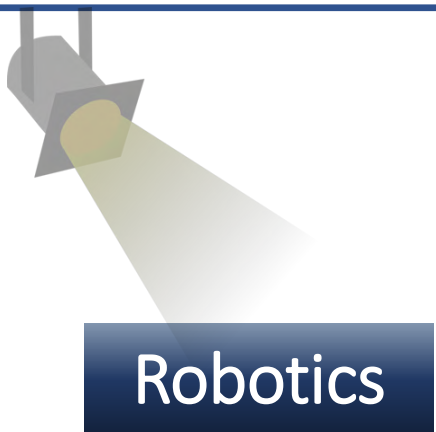
Quantum  
Science



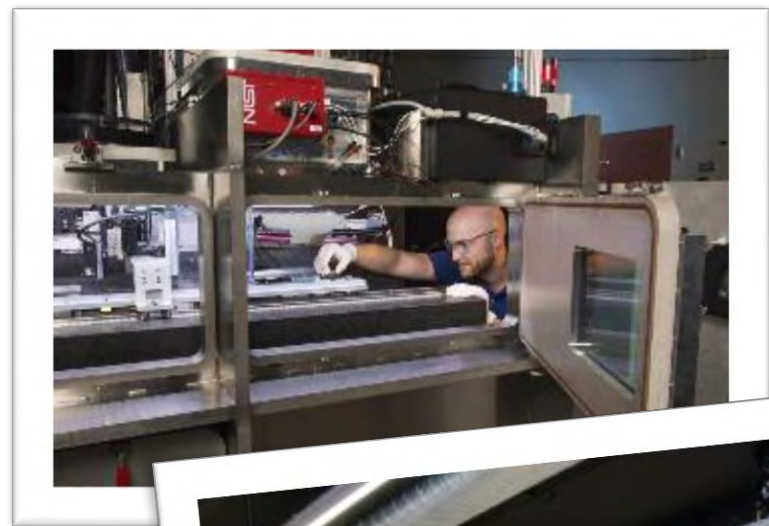
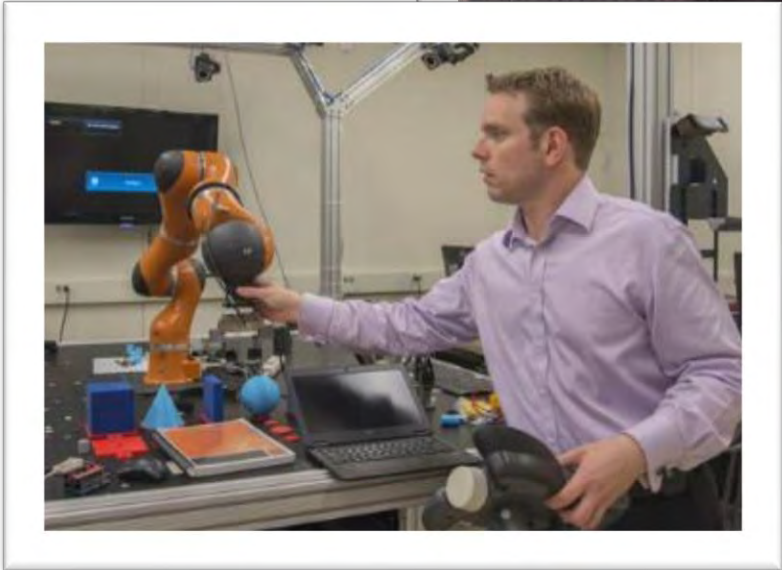
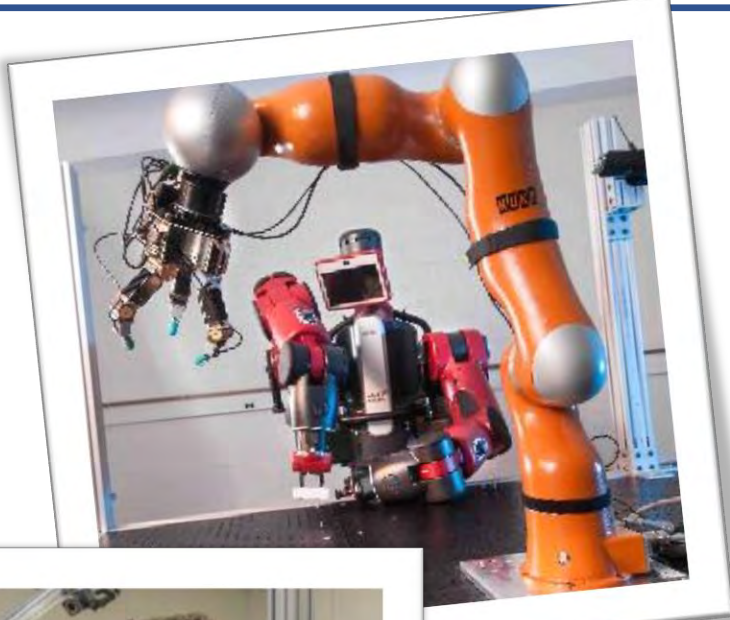
Artificial  
Intelligence



# Smart Manufacturing



Robotics



Additive  
Manufacturing



# Internet of Things

IoT cuts across all NIST programs, including **materials** and **sensors development**, **standards**, **data**, **wireless communications**, and **cybersecurity**



Security



Connectivity



Interoperability

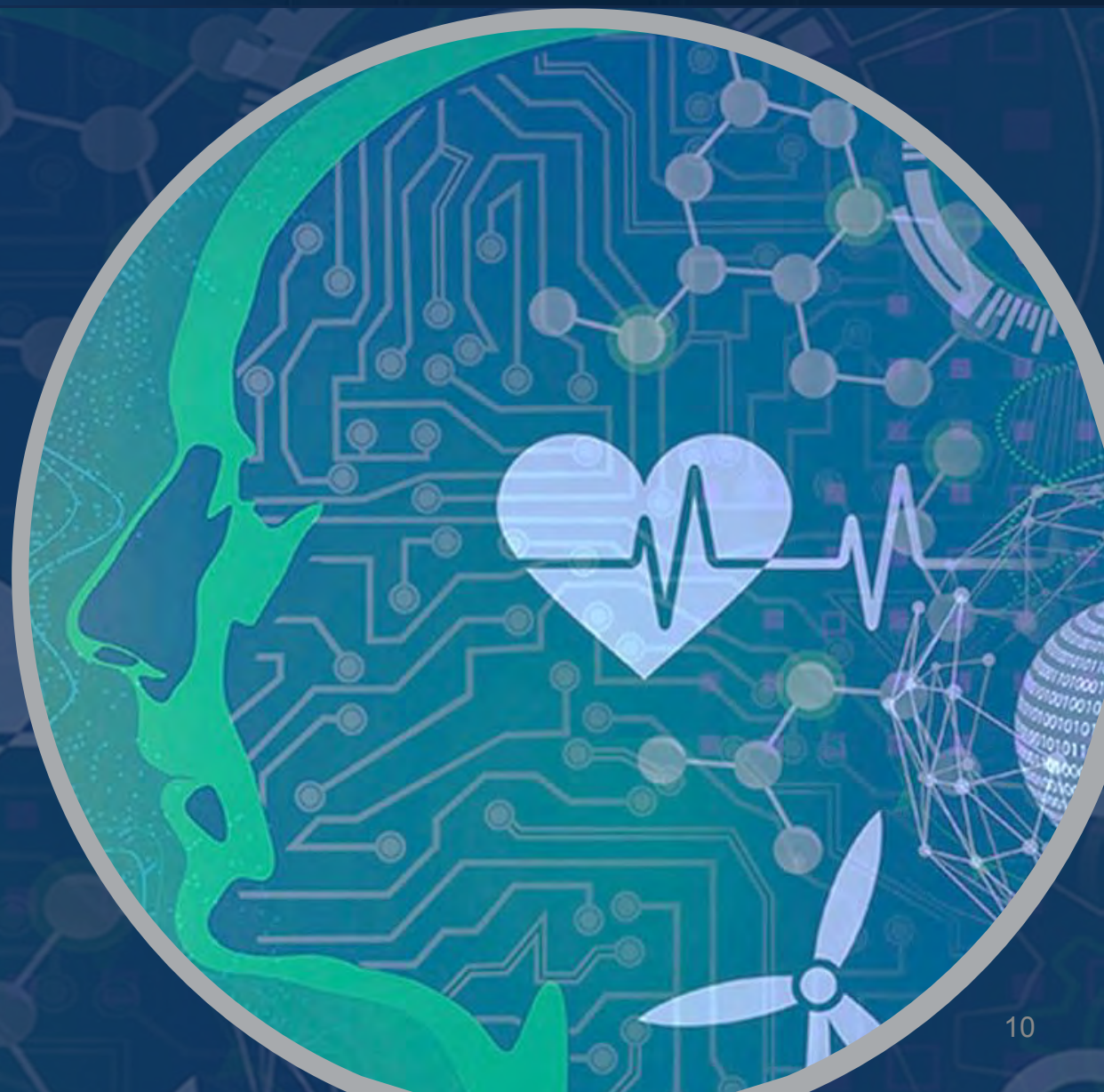


# Artificial Intelligence

Main thrust of NIST AI research program is to build **trust and confidence in AI systems** by:

- improving explain-ability and transparency
- understanding theoretical capabilities and limitations

Implications for **emerging applications** from navigation and traffic prediction, to malware defense and smart assistants

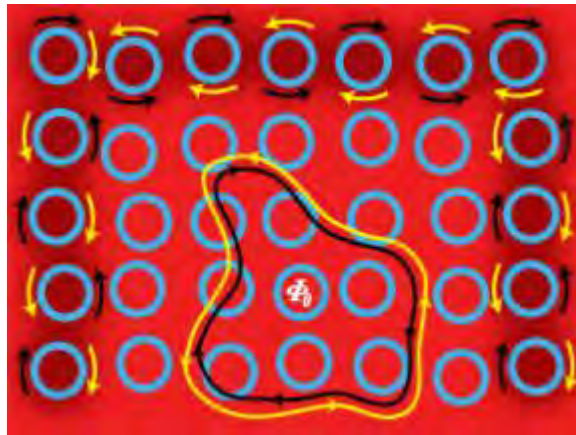




NIST is performing state-of-the-art research in quantum information science, exploring ways to employ quantum phenomena to **measure, encode, and process information** for useful purposes, from powerful data encryption to computers that could solve problems previously impossible by classical computers



Quantum Transduction



Complex Quantum Systems

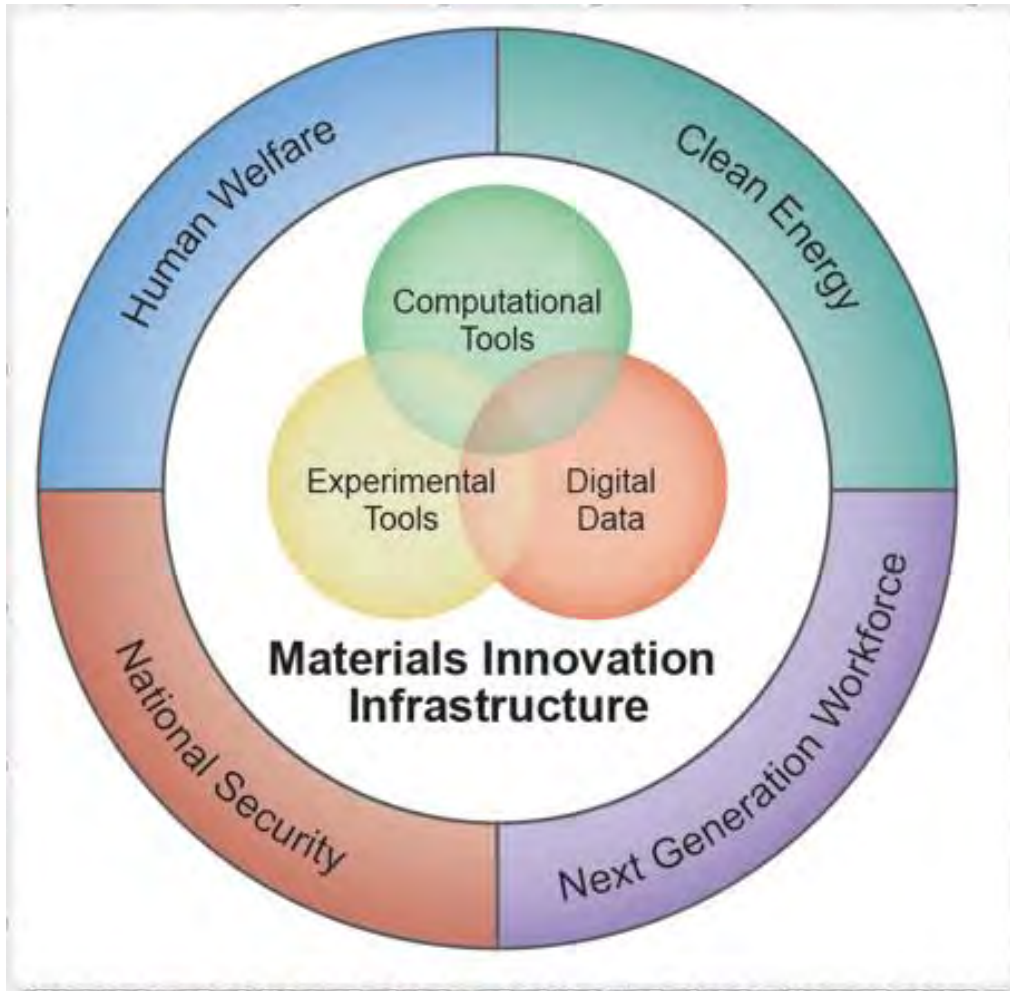


Small Quantum Systems



Quantum Materials and Solid State Qubits

# Materials Genome Initiative



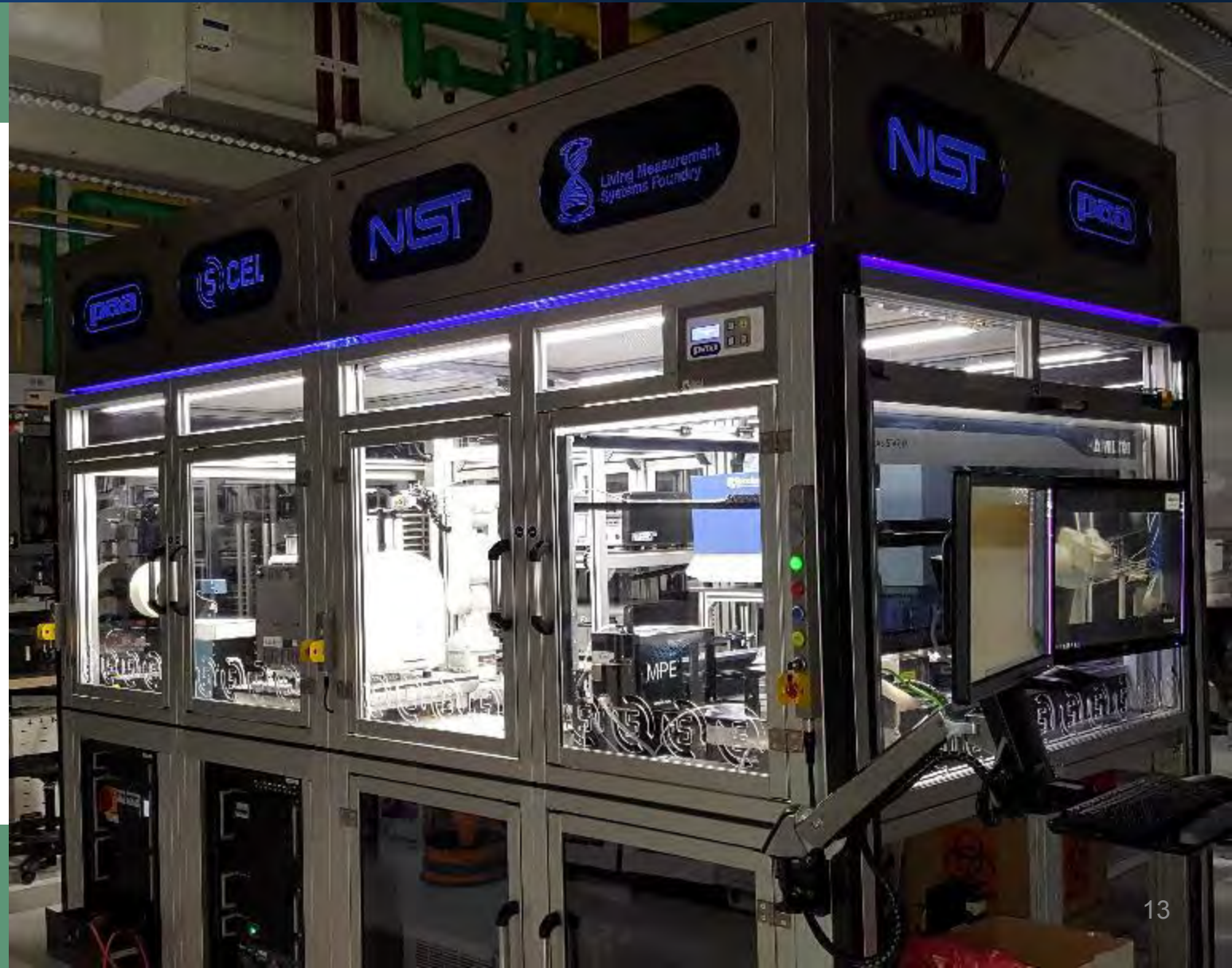
AI enables better access to materials databases, modeling results and programs, and underpinning scientific “rules”

- Reduce the cost and development time of **materials discovery, optimization, and deployment**
- Establish essential data exchange protocols and means to ensure the **quality of materials data and models**
- Produce new methods, metrologies, and capabilities necessary for **accelerated materials development.**



# Engineering Biology

- NIST is working on development of the **predictive engineering of genetic sensors**:
  - scalable and generalizable
  - any type of input signal
  - across a range of industrially relevant microorganisms
- NIST is applying machine learning to **control and optimize the evolutionary process**





# Next Generation Wireless – 5G




- The 5G mmWave Channel Model Alliance, which NIST launched, is accelerating 5G innovation.
- Brought together over+ 130 participants to solve the most pressing modeling and measurement challenges
- Will allow many more devices to send information much faster



# Measurements Dissemination



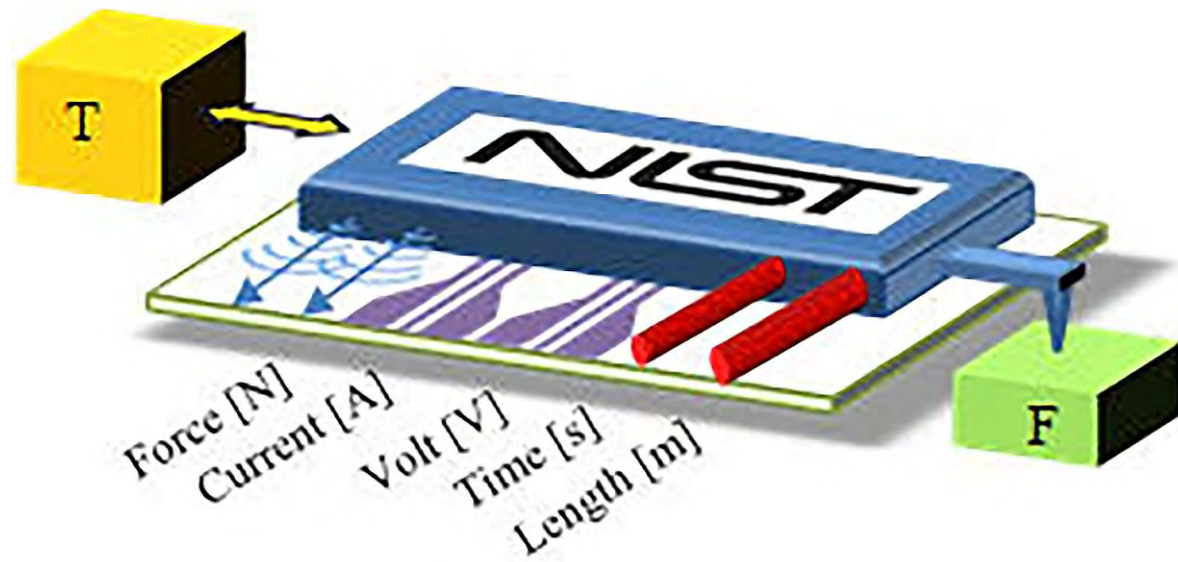
NIST

A group of approximately 20 people, including men and women in professional attire, are standing on a stage. Behind them is a large screen displaying a colorful graphic with the SI logo and the text 'Thank you for joining the Open session to consider the revision of the SI'. The screen also shows the words 'desired definition' at the bottom. A large, colorful floral arrangement is visible in the foreground on the right side of the stage.

Thank you for joining the  
Open session to consider the  
revision of the SI

- Historic vote at the 26th General Conference of Weights and Measures on November 16, 2018 in Versailles, France
- The most significant change to the International System of Units (SI) in more than 130 years
- Unanimous positive vote representing all Treaty of the Metre member nations
- For the first time, all key measurement units will be defined by natural constants rather than physical artifacts

# NIST-on-a-Chip



1

Suite of quantum-based measurement technologies

2

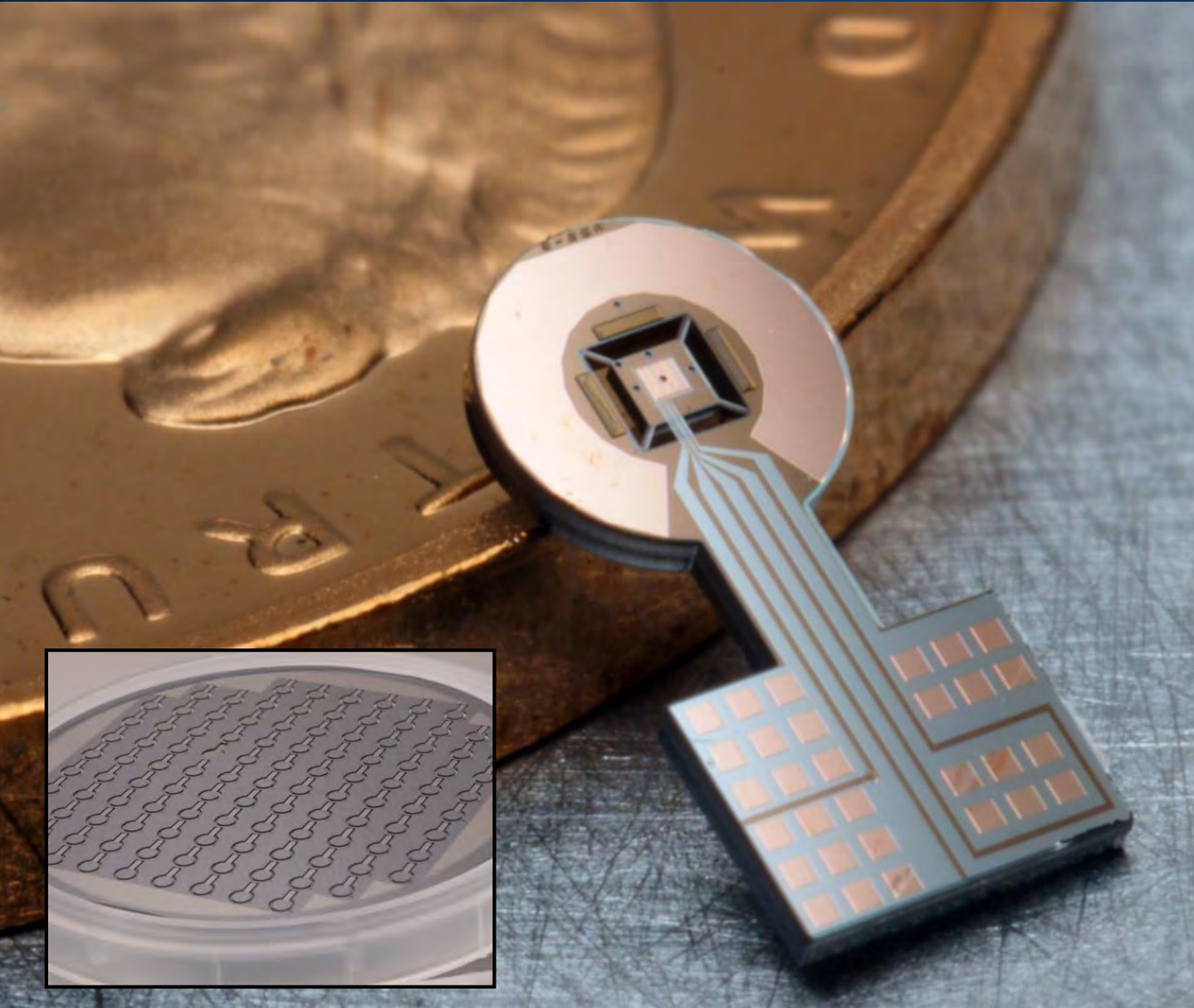
Taking measurement services out of the lab and directly to end users

3

Deployable nearly anywhere and anytime



# NIST-on-a-Chip™: Quantum SI



- Chip-based, absolute radiometer for quantum networks
- Traceability for optical fiber communications, single photon through-space transmission / detection, and faint light space applications.

Intrinsically accurate, quantum-based technologies and IP: global strategies

# NIST and Tech Transfer



- Policy coordination, technology transfer regulation
- Lead for Interagency Workgroup for Technology Transfer (11 agencies)
- Interagency Workgroup for Bayh-Dole
- Annual reports for the President, the Congress, and OMB on technology transfer across federal agencies
- Lead in Lab-to-Market NSTC Subcommittee



Credit: Peter Cutts

Unleashing American Innovation Symposium, April 19, 2018

NIST has a unique role in promoting and reporting on the overall strength of federal technology transfer efforts



# Public Sector R&D: Creating Seed Corn

- The **Federal government invests over \$175 billion per year in R&D:**
  - **~1/3** at 300+ Federal laboratories
  - **~2/3** at universities, R&D institutes, industry ...
- For economic vitality, competitiveness and national security, the results of this investment must be put to **increasingly productive use** through:
  - ***applied research*** and ***services to the public***
  - ***maturation*** and ***transfer to companies to create new products and services***



# 21<sup>st</sup> Century Innovation Ecosystems

*We've come a long way since 1980....*

Federal Government, Universities, Federal Labs, Research Organizations, Entrepreneurs remain at the heart of innovation ecosystems

- Networks
- Agility
- Co-development
- Proximity
- Resource access
- Talent





Credit: Peter Cuttis

(L to R): Michael Kratsios (WH/OSTP), Walter Copan (U/S NIST), Wilbur Ross (Commerce Secretary), Margaret Weichert (Deputy Director OMB), and Andrei Iancu (U/S USPTO)

**VISION: Unleash the innovation power of America into our economy**

**GOAL:** Maximize the transfer of federal investments in science and technology into value for America

---

**meet current and future economic and national security needs** in a rapidly shifting technology marketplace and enhance U.S. competitiveness globally

---



**attract greater private sector investment** to create innovative products, processes, services, as well as new businesses and industries

## Cross Agency Priority Goal: Improve Transfer of Federally-Funded Technologies from Lab-to-Market

### CAP Goal Leads




**Walter Copan**  
Under Secretary of Commerce for Standards and Technology  
Director, National Institute of Standards and Technology

**Michael Kratsios**  
Deputy Assistant to the President for Technology Policy  
White House Office of Science and Technology Policy

### Participating Agencies



### Interagency Contributors

- National Science and Technology Council Lab-to-Market Subcommittee
- Interagency Working Group for Technology Transfer
- Interagency Working Group for Bayh-Dole
- Small Business Innovation Research (SBIR) Program Managers Working Group
- Interagency I-Corps Community of Practice
- Federal Laboratory Consortium for Technology Transfer



RETURN ON  
INVESTMENT  
INITIATIVE

TO ADVANCE  
THE PRESIDENT'S  
MANAGEMENT  
AGENDA

DRAFT GREEN PAPER  
DECEMBER 2018



UNLEASHING  
AMERICAN  
INNOVATION

NIST Special Publication 1234

- Developed with support of the Science and Technology Policy Institute (STPI) and with White House Office of Science and Technology Policy
- Carefully considered extensive stakeholder inputs
- Addressed review with interagency working groups
- Published as **NIST Special Publication 1234**

**15** key findings to drive actions that will remove existing impediments to innovation at the public-private sector interface, and streamline and accelerate technology transfer

## ROI findings support 5 Lab-to-Market CAP Goal strategies:



Identify regulatory impediments and administrative improvements in Federal technology transfer policies and practices



Increase engagement with private sector technology development experts and investors



Build a more entrepreneurial R&D workforce



Support innovative tools and services for technology transfer



Improve understanding of global science and technology trends and benchmarks.

## Regulatory & Administrative Improvements

- Need to clarify the limited situations in which **Government Use Licenses** and **March-In Rights** may be exercised
- Need to support **Preference for U.S. Manufacturing** through a more transparent and streamlined waiver processes
- “Government works” exception to **Copyright Protection for Software Products** of R&D GOGO laboratories constrains commercialization



## Private Sector Engagement

- Need to improved clarity and use of best practices by Federal Laboratories that will streamline **Partnership Agreements**
- Need to expand/create **Flexible Partnership Authorities** to simplify/accelerate collaborations with private sector
- Need to expand use of **Non-Profit Foundations** to accelerate technology maturation by Federal Laboratories
- Need to allow **Limited Use of R&D Awards** to secure government’s right and interest to a patented invention





# Highlights of ROI Findings

## Entrepreneurial Workforce

- Need to strengthen and expand **Technology Entrepreneurship Programs** by leveraging best practice entrepreneurship and experiential training programs
- Need to clarify and update **Conflict of Interest Requirements**—and better manage conflicts of interest—for those working on federally funded R&D inside and outside government and with the private sector



## Tools & Services

- Need to collect and provide consistent and easy-to-access federated data on **Federal Technologies, Knowledge, and Capabilities**
- Need for a modern, secure, interoperable platform for **Reporting Federal IP Data** (inventions, copyrights, and utilization metrics) that is easy to access, analyze, and use



## Benchmarking & Metrics

- Need for an authoritative analysis of metrics to better capture, assess, and improve **Technology Transfer Outcomes & Impacts** across broad spectrum of applications & the time required to realize Federal R&D impacts
- Need to develop and use guidance for **Technology Transfer Outcome and Impact Metrics** at the Federal Laboratory level to facilitate relevant comparison with universities
- Need for a pre-approved model data collection instrument for **Economic Impact Studies**





March / April

- Final revisions to *ROI Green Paper* and clearance
- Publish *Final ROI Green Paper*
- Broad outreach and dissemination to industry, university, and federal stakeholders

April & Beyond

- Final CAP Goal milestones (announced ~3/22 on [performance.gov](https://www.performance.gov))
- Initiate implementation actions, including proposed legislation and regulation processes



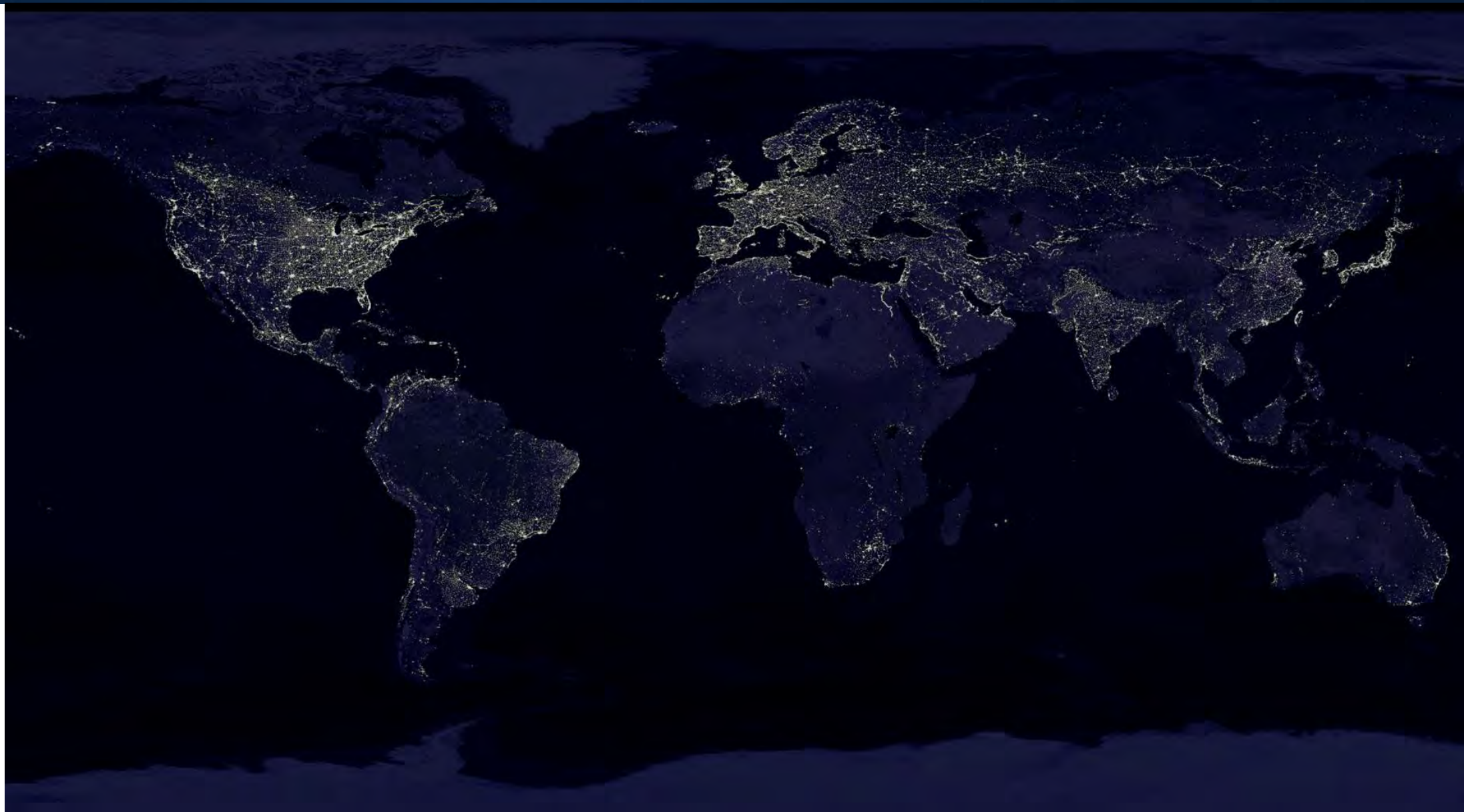
*Federal Register* and *Press Release* Announcement of  
*RFI* and *Public Forums*

Video Recording of *Unleashing American Innovation Symposium*  
*Slide Decks* from *Public Forum* Presentations

*Draft ROI Green Paper, RFI Responses & Press Releases*

[www.nist.gov/tpo/ROI](http://www.nist.gov/tpo/ROI)

# Convergence & Global IP Strategy





# Thank you!

*Please stay in Touch...*



[www.NIST.gov](http://www.NIST.gov)



[@usnistgov](https://twitter.com/usnistgov)

[walter.copan@nist.gov](mailto:walter.copan@nist.gov)

# Trends in patenting

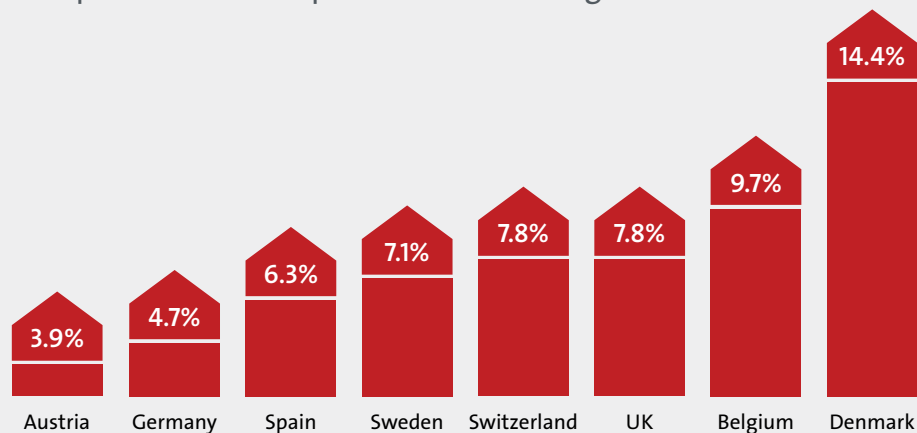
Europe is an attractive technology market for European and international companies

# 2018

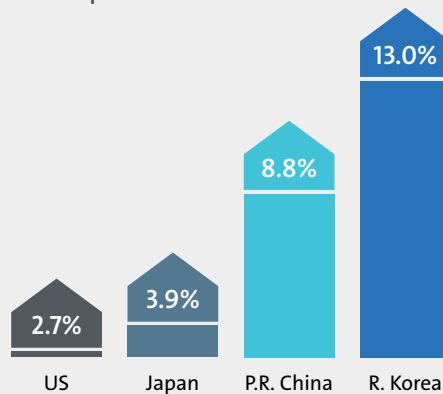
Patent applications at the European Patent Office continue to grow in 2018:



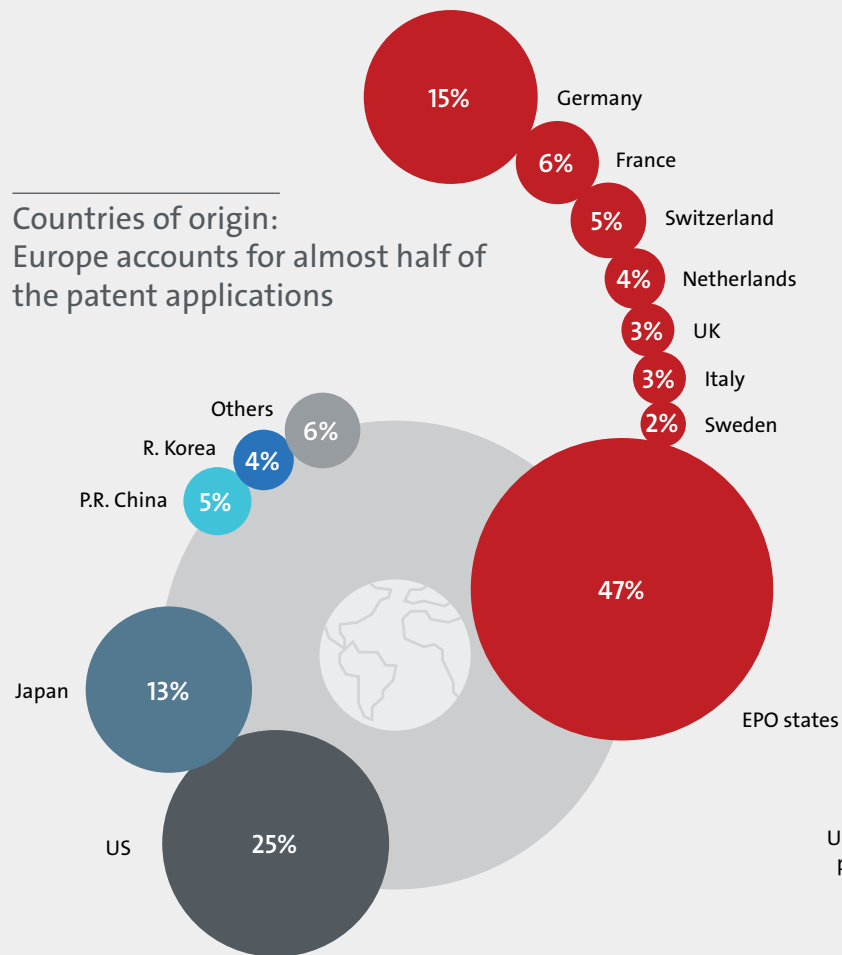
Companies from European countries fuel growth:



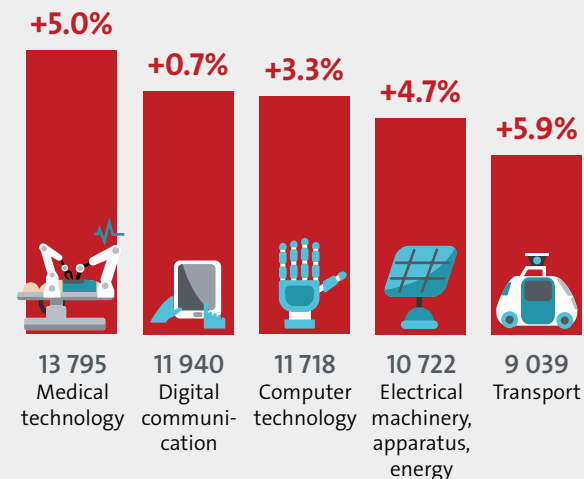
Other global growth champions:



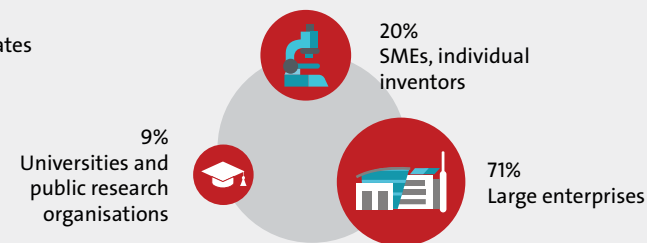
Countries of origin: Europe accounts for almost half of the patent applications



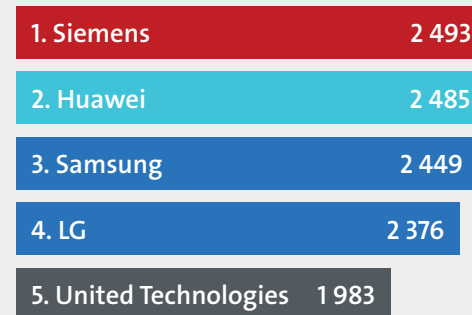
Top technology fields:



1 in 5 applications is filed by an SME:



Top patent applicants:



All figures are based on European patent applications. Source: EPO. Status: 21.1.2019. [epo.org/annual-report2018](http://epo.org/annual-report2018)