

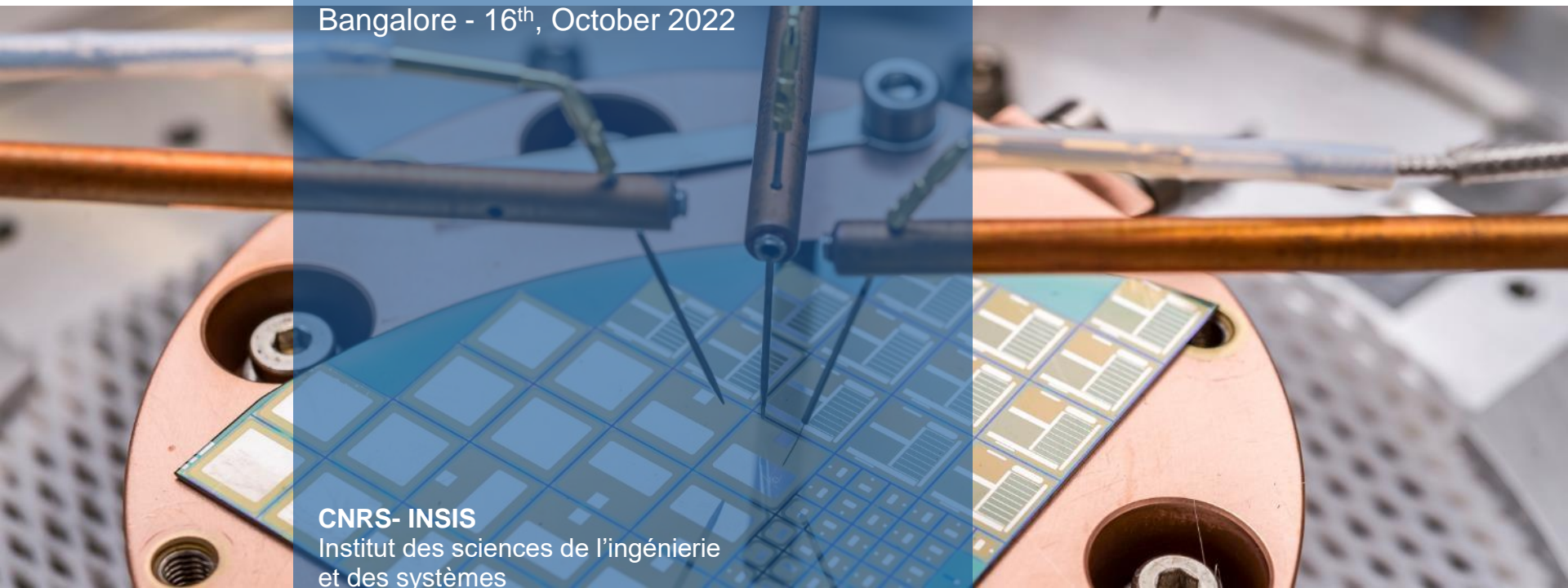


DEPARTMENT OF ENGINEERING SCIENCE AND SYSTEMS

International strategy –

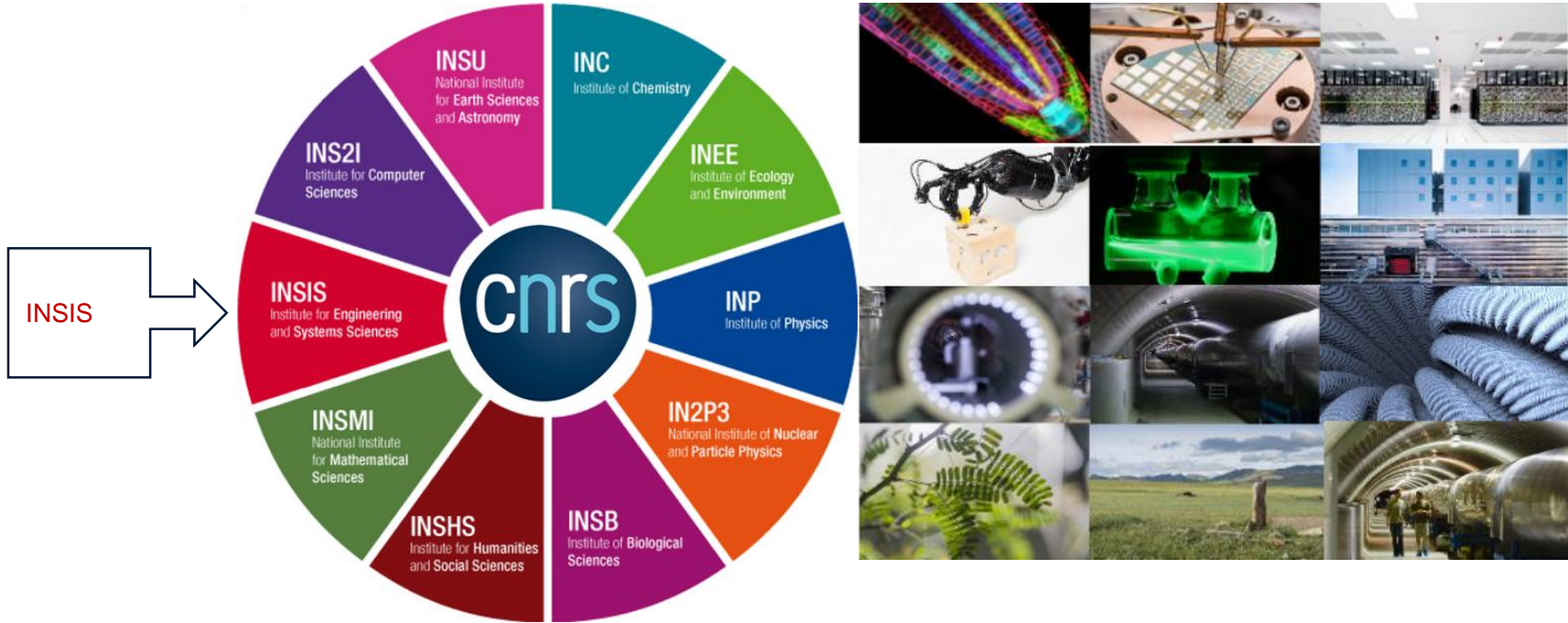
Bangalore - 16th, October 2022

CNRS- INSIS
Institut des sciences de l'ingénierie
et des systèmes



CNRS : a key player in Science and Innovation

10 Scientific Departments covering all fields of research

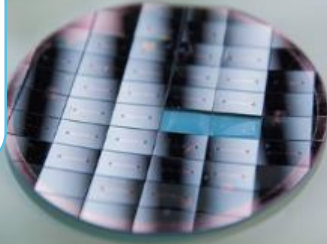


Each CNRS research lab is supervised by at least one scientific department



INSIS Scientific fields and their domains of application

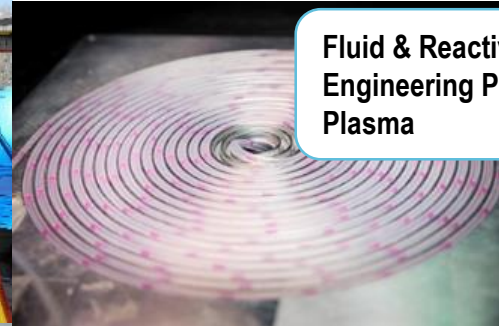
Photonics
Electrical Engineering
Electronic
Nanotechnologies



Materials
Structures
Acoustics



Fluid & Reactive Media
Engineering Process
Plasma



Automatics &
Robotics



Technologies For Health
Bio engineering



Domains of Application: Transport, Energy & Environment, Health, Construction, Information & Communication, Security/ Safety/ Defense

INSIS scientific governance

A scientific Director :

- 2013-2022 : **Jean-Yves MARZIN**
- Since February 2022 : **Lionel BUCHAILLOT**

3 deputy scientific directors :

- **Mrs Anne-Christine HLADKY** : Materials / Structures & Acoustics + Automatics & Robotics + Technologies For Health Bio engineering
- **Mrs Maria BERNAL** : Photonics, Electrical Engineering, Electronics, Nanotechnologies
- **Mr Fabien GODEFERD** : Fluid & Reactive Media, Engineering Process & Plasma

An international team with :

- **Mr Laurent NICOLAS**, Deputy scientific director for International & European cooperation
- **Mr Yann DEVAL**, scientific delegate for Europe
- **Mrs Olga ALLARD**, head of the International and European division

INSIS at a glance

INSIS priorities

- ❑ **From Basic to applied research on**
 - Systems Engineering
 - Electrical and Optical Engineering
 - Telecommunications and Networking Engineering
 - Mechanical and Materials Engineering
- ❑ **Contribute to solve social challenges**
(Energy, Health, Climate change, transport,...)
- ❑ **From Lab to Fab** *(strong partnerships with industrials)*
- ❑ **Enhance International Cooperation in the field of Engineering**

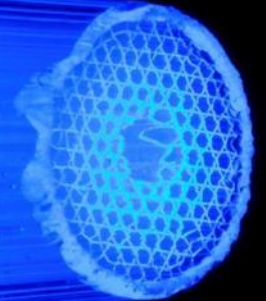


INSIS strengths

- ❑ **16 880 Staff**, including (14% CNRS)
 - **6 592** CNRS and University researchers
 - **2 713** engineers, technicians & administrative staff
 - **7 239** postdoc and PhD students
- ❑ **109 laboratories**: including
 - **6 IRL**- International research laboratories
(Canada, Japan, Singapore, USA)
- ❑ **35 national research networks**
- ❑ **20 M€ annual budget** *(60% for the labs operating cost)*

International Cooperation Policy at INSIS

Focus on India



INSIS international action in few figures

20 M€ Annual budget
(without salaries)

1M€ dedicated to international actions including **more than 420K€** for the **6 IRL** (operating, scientific equipment, investment)

20 to 25 researchers working abroad / year

- Strong support for long-stay mobility in IRL, as well as for post-doc & fixed-term contracts.
- Encouraging short stays (from few weeks to few months), before longer ones

INSIS has International cooperation with over 30 countries on all continents

6 IRL

1 Canada, 3 Japan, 1 Singapore, 1 USA

25 IRP

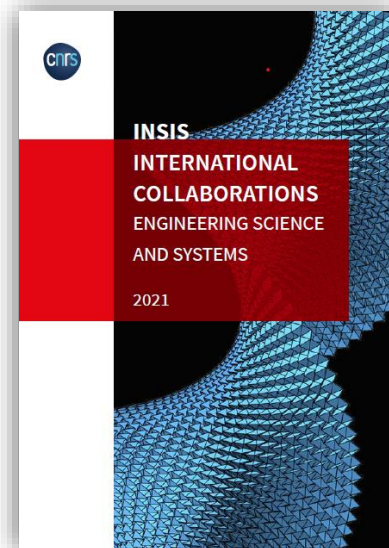
Ongoing international projects

10 IRN

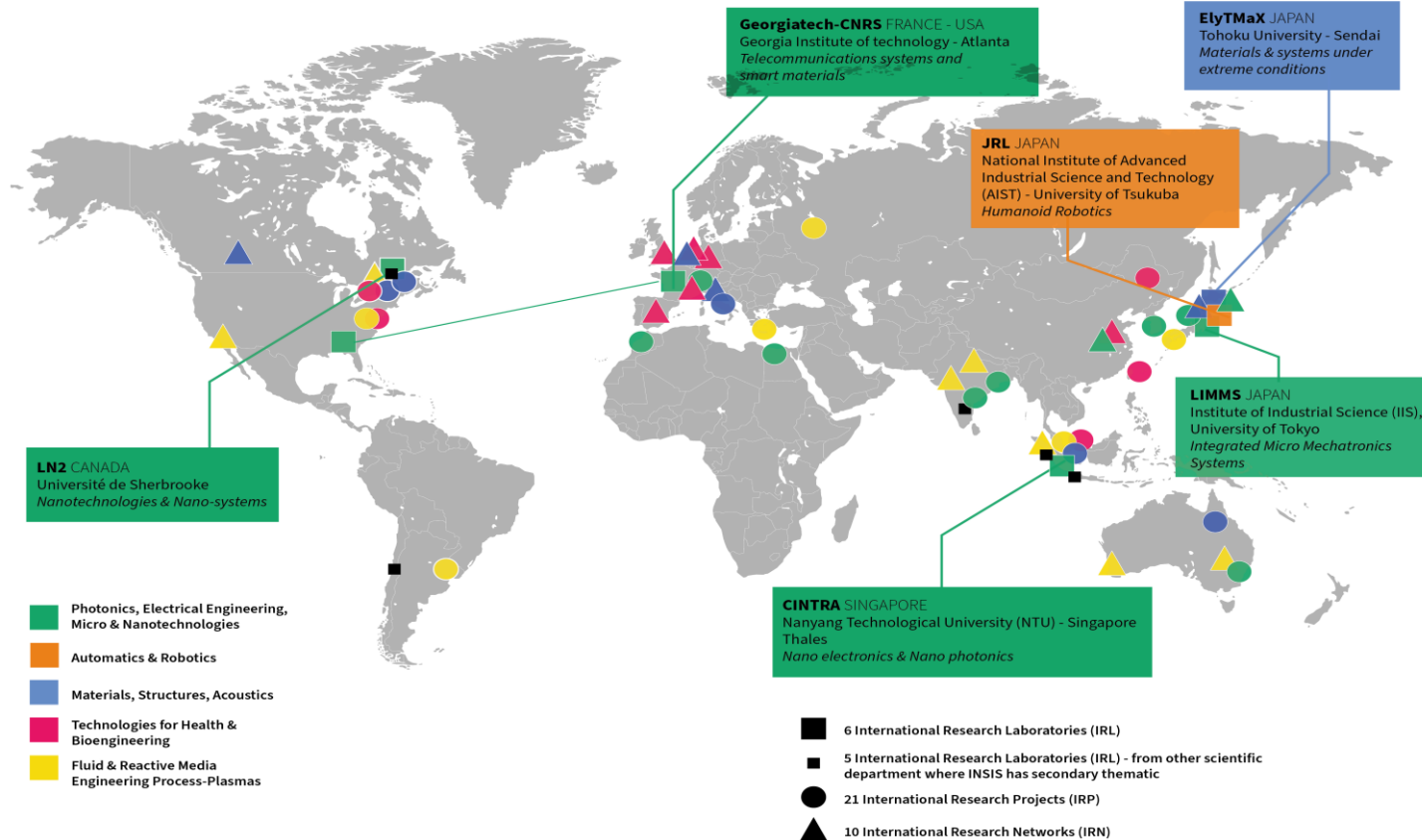
Ongoing international networks

19 IEA

Ongoing international emerging actions

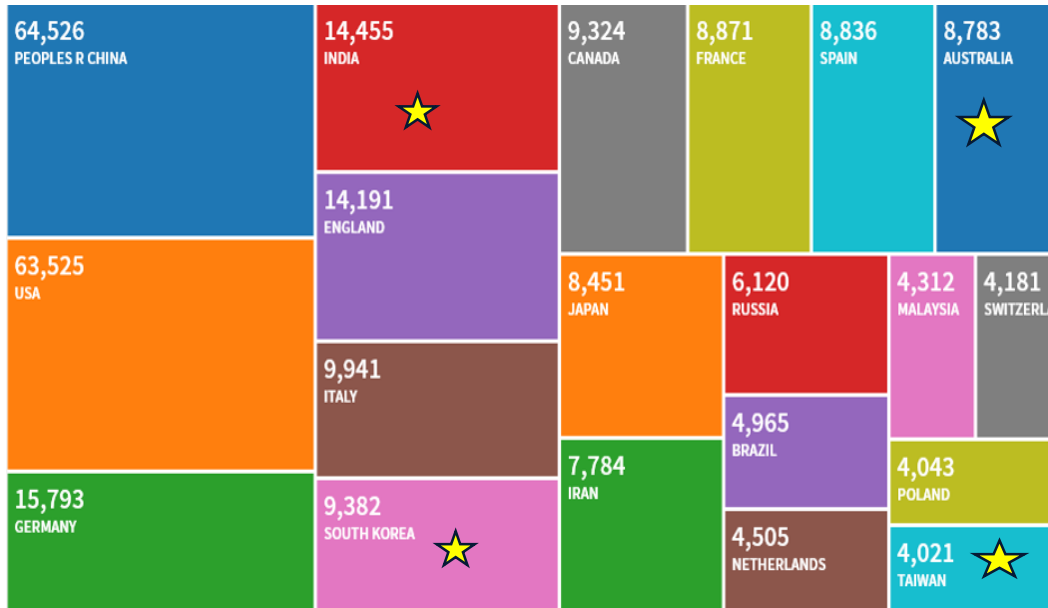


INSIS WORLDWIDE PRESENCE BY SCIENTIFIC DOMAINS



Cooperation & copublication

Top 20 publishing countries in Engineering



INSIS strategy

Enhance cooperation with identified target countries **Australia**, **India**, **South Korea** and **Taiwan**.

Actions :

- **Incentive** to develop cooperation with those countries through CNRS International cooperation tools (*IEA, IRN, IRP*)
- **Planning** exploratory missions in those countries to meet specific partners

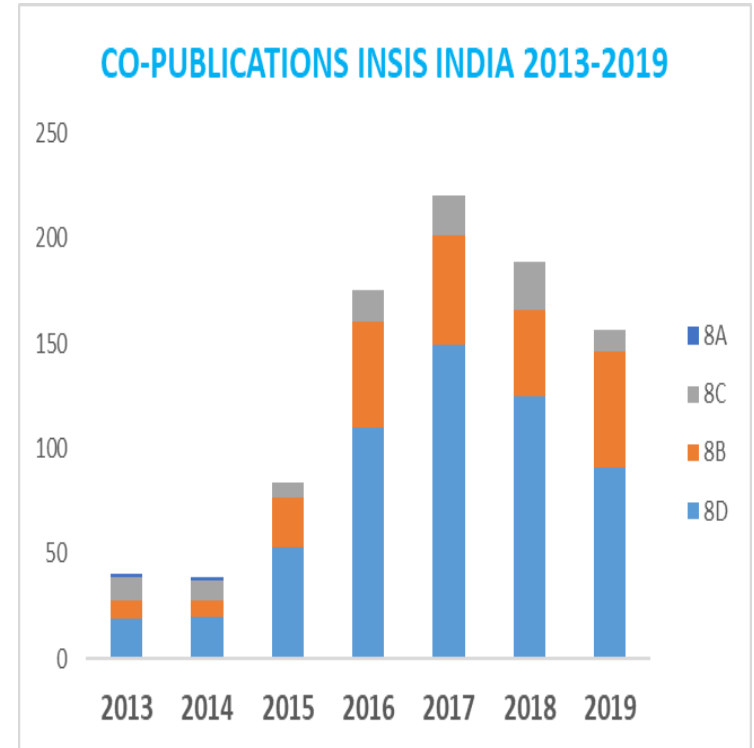
Indicators : Web of Science **Document Location type** : country **Shema** : Essential Science Indicators/ articles, proceedings, Review **Research Area** : Engineering **Time Period** : 2015- 2019

Evolution of cooperation and co-publications with India,

target countries since 2014

Since INSIS incentive to develop cooperation with India we launched numerous actions:

- ❑ **2019-2021 : PRC ExoLOC** (CNRS / INRIA/ CEFIPRA) with the Indian Institute of Space Science and Te, Thiruvananthapuram
- ❑ **3 IEA between 2019 and now:**
 - IEA HINDI-BIO with the Raman research Institute, Bangalore
 - IEA Oracle with CSIR-CSIO, Chandigarh
 - IEA TopoMeta with the Indian Institute of Science, Bangalore
- ❑ **2022 : IRP MEGATRON** (MEMS and GaN Development ThRough COmplementary CollaboratioN) with the IIT Chennai
- ❑ **2022 : IRN HYDROBIO** (Hydrodynamics at small scales: from soft matter to bioengineering) with IITs and IICs of Kharagpur, Khanpur, Mumbai, Bangalore, and a lot more.

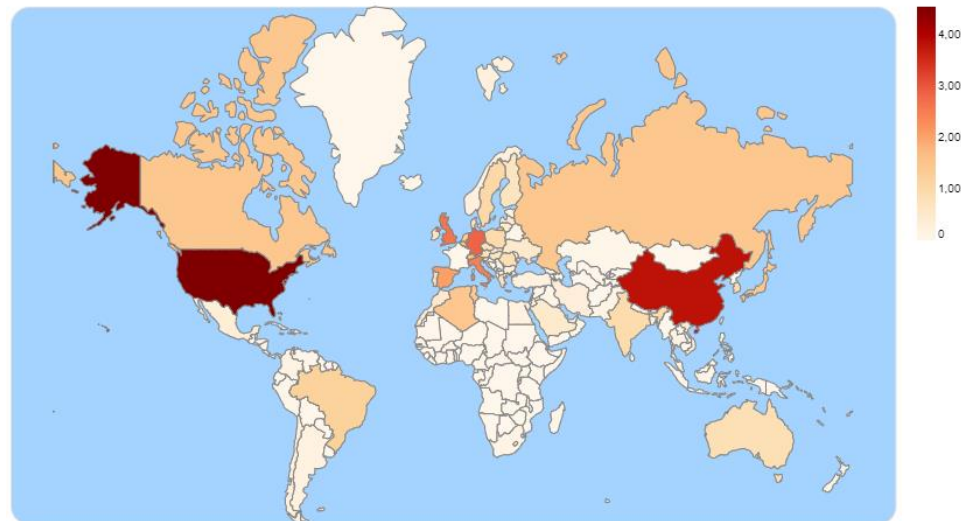


INSIS co-publications 2013-2019

~ 50 000 articles in 2013-2019
~ 51% are co-publications with more than 100 countries including **top 20** :

- 5 669 USA
- 4 506 China
- 3 577 Germany
- 3 208 Italia
- 3 203 UK
- 2 596 Spain
- 1 897 Tunisia
- 1 878 Canada
- 1 875 Algeria
- 1 860 Belgium
- 1 830 Switzerland
- 1 692 Russia
- 1 648 Japan
- 1 467 Netherlands
- 1 352 Brazil
- 1 168 Sweden
- 1 093 Poland
- **1 016 India**
- 994 Australia
- 944 South Korea

Coopérations internationales - Cartographie



2013-2019. Web of Science™ Core Collection Clarivate Analytics / Web of Science (WoS) : Science Citation Index Expanded (SCI EXPANDED) ; **articles**, Citation Index - Science (CPCI-S)

**THANK YOU FOR YOUR ATTENTION AND
BEST WISHES OF SUCCESS FOR THIS
WORKSHOP!**

www.insis.cnrs.fr

<https://international.cnrs.fr/>

www.cnrs.fr

