

NOMATEN Centre of Excellence in Multifunctional Materials for Industrial and Medical Applications

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National Centre for Nuclear Research



NOMATEN CoE has been established as a joint project of the NCBJ
and its Strategic Partners: CEA and VTT

Project was possible thanks to the Teaming for Excellence
Programme of the EU, project 857470

Basic facts

● **NOMATEN Centre of Excellence** has been created in Poland as a new research organization in which international world-class research teams will design, develop and assess **innovative multifunctional materials** – materials combining advanced structural and functional properties – **for industrial and medical applications**

● FUNDING:

European Union Horizon 2020 research and innovation programme under grant agreement No 857470; total 14 985 682,50 EUR (about 69 mln PLN as of today exchange rate)

European Regional Development Fund via Foundation for Polish Science International Research Agenda PLUS programme grant No MAB PLUS/2018/8; total 44 220 391,00 PLN

Ministry of Science and Higher Education - Republic of Poland

Ministry of Energy - Republic of Poland

Marshal of the Mazowieckie Voivodeship

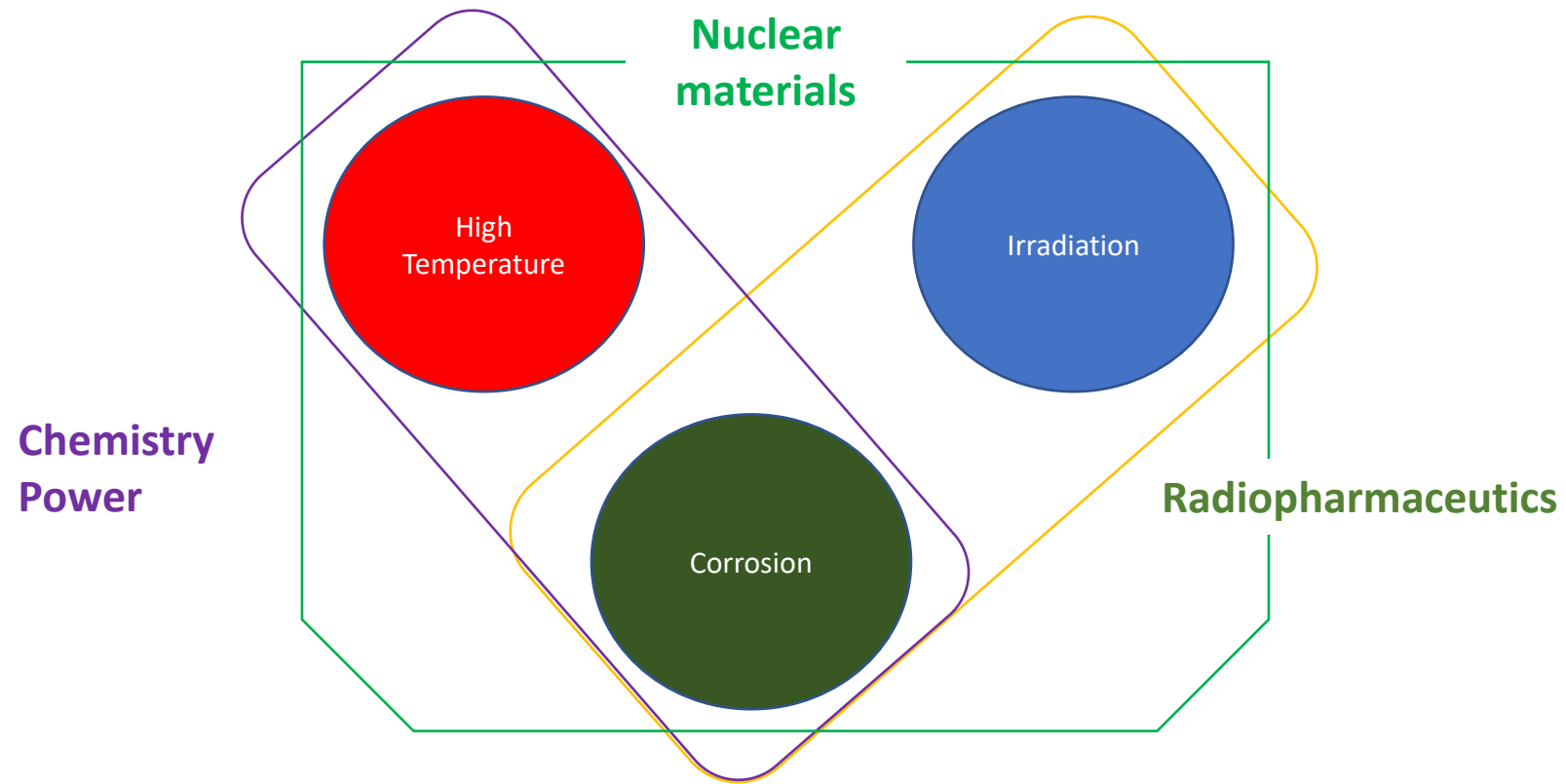
National Centre for Nuclear Research

General concept

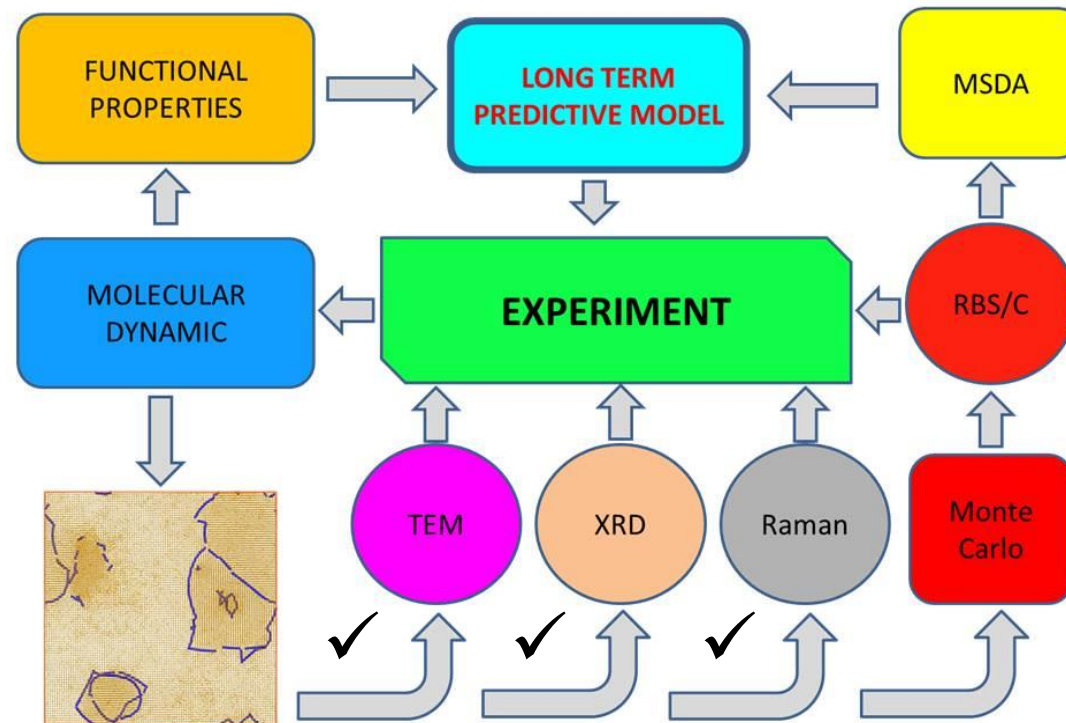
The concept of the NOMATEN CoE is based on:

- Strategic Research and Innovation Agenda focused on two interdisciplinary topics:
 - (i) *novel materials resistant to harsh environments and*
 - (ii) *novel radiopharmaceuticals for medical applications, which both are aligned with the Smart Specialization of Poland and address strategic priorities of the EU.*
- Organization structure positioning the CoE as a “game changing” research entity in Poland with truly international approach and innovative governance and management principles based on the best practices of international partners.
- Customer-centric business model making the CoE a focal point for collaboration between the research community, industry and government and ensuring its financial viability.

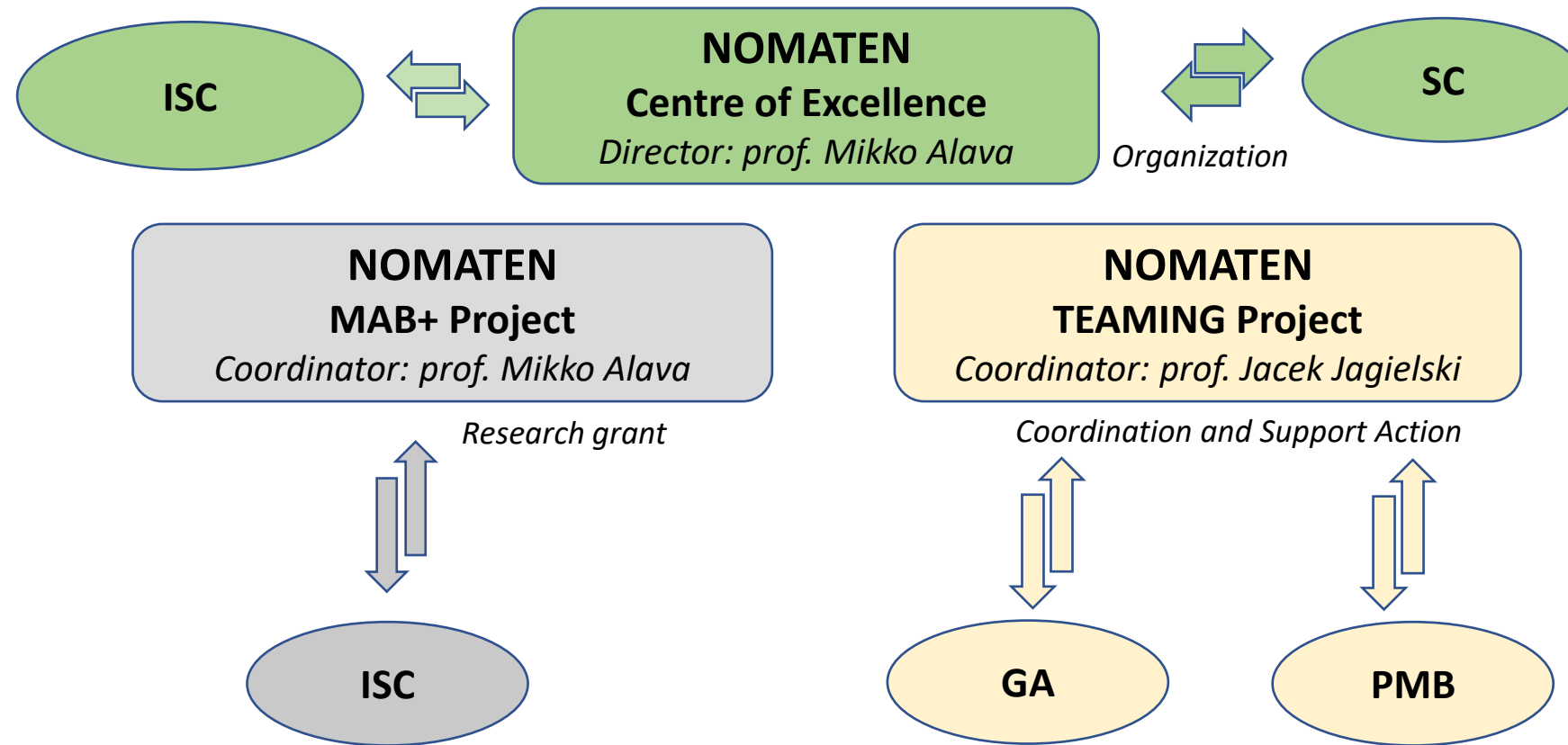
General concept















General concept



Structure



Structure

Prof. Sergio Bertolucci, Chairman (M)	Former Director of Research and Scientific Computing at CERN		Largest research centre in Europe
Prof. Renata Mikołajczak (F)	POLATOM		Radiopharmaceutical research and manufacturing
Dr Petri Kinnunen (M)	VTT		NOMATEN PARTNER
Dr. Gilles Moutiers (M)	CEA		NOMATEN PARTNER
Dr. Yanwen Zhang (F)	Oak Ridge National Laboratory		Worldwide leading lab
Prof. Giovanni Bruno (M)	Bundesanstalt für Materialforschung und -prüfung		European leading material research lab
Dr. Lorenzo Malerba (M)	CIEMAT		Similar CoE
Dr. Teresa Pérez Prado (F)	IMDEA Materials		Similar CoE
Prof. Roman Stryjski (M)	ENEA Group		Industrial partner
Prof. Krzysztof Kurek (M)	NCBJ (non-voting member)		Host institution
Dr. Marja Leena Hakalahti (F)	VTT		Radiopharmaceutical research
Dr. Frédéric Dollé (M)	CEA		Radiopharmaceutical research

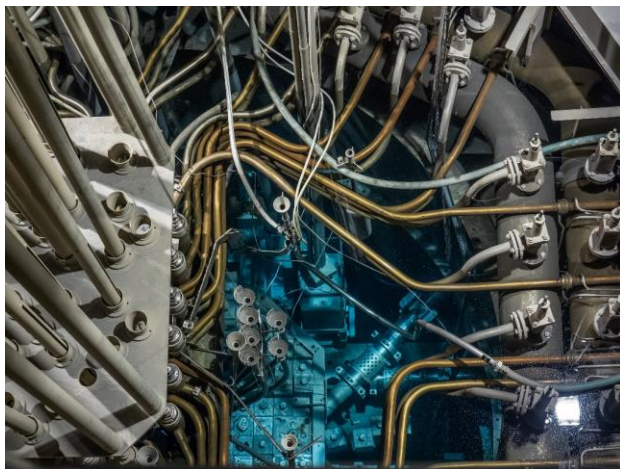
Purpose

NOMATEN should be regarded as a tool for initiation of a broad cooperation network on materials for harsh environments

- ✓ Initiation of national and international cooperation programs
- ✓ Preparation of grant proposals and support of grant implementation
- ✓ Cooperation with industry
- ✓ Organization of schools, workshops, meetings, conferences, short term visits
- ✓ Access to infrastructure in partner institutions and through Transnational Access Programs
- ✓ Co-financing of Ph.D. theses
- ✓ Financing of post-docs stays
- ✓ New investments in the equipment for material studies

Equipment

MARIA Reactor



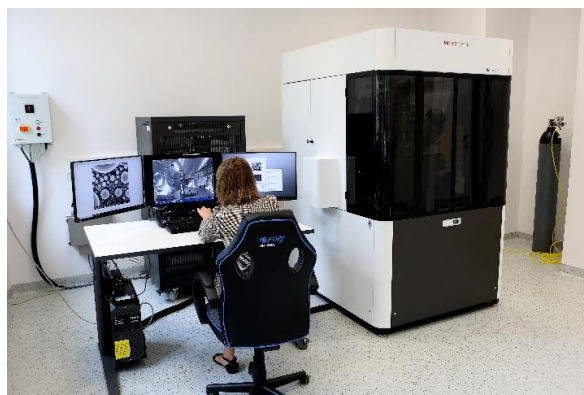
LBM (Hot Cells)



POLATOM

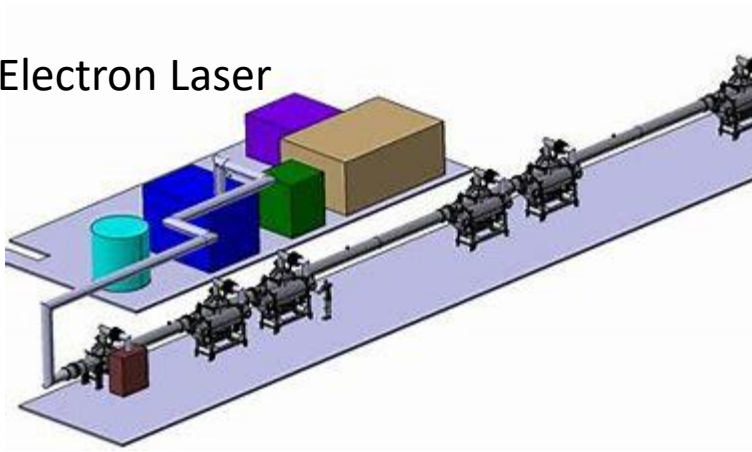


Equipment



Equipment (near future)

POLFEL Free Electron Laser



Neutron Lab



CERAD



Conclusions

Our ambition is to become a regional center specialized in design, synthesis and research on materials for high temperature, corrosive and nuclear applications operating in a flexible way in close collaboration with other research institutions

- ✓ Equipment is (if possible) adapted to in-situ studies of materials at high temperatures and in various environments gases, water vapour)
- ✓ We are open for international collaborations (currently seven bilateral collaboration plus five EU projects)
- ✓ Several methods are certified accordingly to PL, EU and US standards

Contact us



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