

SUSTAINABLE FUTURE STARTS WITH CHEMISTRY



WHO WE ARE



The Łukasiewicz Research Network – Industrial Chemistry Institute, named after Professor Ignacy Mościcki

is a leading research institute in Poland with more than 100 years of history. We continue the legacy of METAN company, which was founded in Lviv in 1916 on the initiative of Prof. Ignacy Mościcki, a prominent chemist and President of the Republic of Poland. We specialise in research, development and implementation in the fields of petrochemistry and chemical technology, polymer chemistry, pharmacy and biotechnology.



WHAT WE DO

We carry out scientific and industrial research, development and implementation work, and commercial services in the following areas:

Low carbon technologies and recycling

Modelling of chemical processes

Ansys Fluent, ChemKin, ChemCad

Pharmaceutical and industrial biotechnology

Electromobility

hydrogen fuel cells and electrochemical energy sources

Cosmetics and household chemicals

Pharmaceuticals

manufacture of APIs, medicinal and related products

Advanced polymer materials and composites

from manufacture to re-use



RESEARCH OFFER

PETROLEUM-BIOREFINERY, INDUSTRIAL CHEMISTRY AND RENEWABLE ENERGY SOURCES

Implementation of electrocatalytic, electrochemical and mechanochemical processes in chemical synthesis and recycling processes

Modelling and *in silico* scaling of chemical processes

Development of feedstock sustainable and low carbon petrochemical and Circular Economy processes



RESEARCH OFFER

POLYMER CHEMISTRY

Advanced polymers, composites and laminates

modern production technologies from renewable and recycled raw materials, including low energy and material intensive construction materials

Efficient processing and recycling of plastics,

minimising their impact on the environment and enabling materials to be reused

PVC technologies

based on polyvinyl chloride for use in construction, industry and other sectors

Sustainable agriculture

organic crop protection products and pesticide minimisation

Functional polymer coatings

coatings with antibacterial, flame retardant, gas barrier and hydrophobic properties with applications in various industries

Polymer materials analysis

flammability, thermal, surface properties, microplastics analysis and more

Smart, biodegradable, recyclable, active polymers

for packaging and other applications

Advanced polymer materials for specialised applications

defence industry, personal protective equipment industry, transport equipment, construction industry

Polymers and biopolymers with antibacterial,

antifungal and antioxidant properties with applications in the food, medical, cosmetics and other industries



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PHARMACY

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Research and development of APIs, pharmaceuticals and related products:

Laboratory and semi-technical scale API development

Commercial API production

batch sizes from grams to several hundred kilograms (accreditations (Japan), ASMF dossier, GMP, CEP certificates)

Development of medicinal and health products

Dietary supplements and foods for special purposes

Scale-up of API manufacturing processes with full validation

Manufacturing of APIs, investigational and medicinal products (GMP)

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BIOTECHNOLOGY

Comprehensive pharmaceutical and industrial biotechnology services:

Screening of microorganisms

search for bioactive compounds

Genetic engineering of microorganisms

design of chemical synthesis pathways, genome analysis

Optimisation and scale-up of biotechnological processes

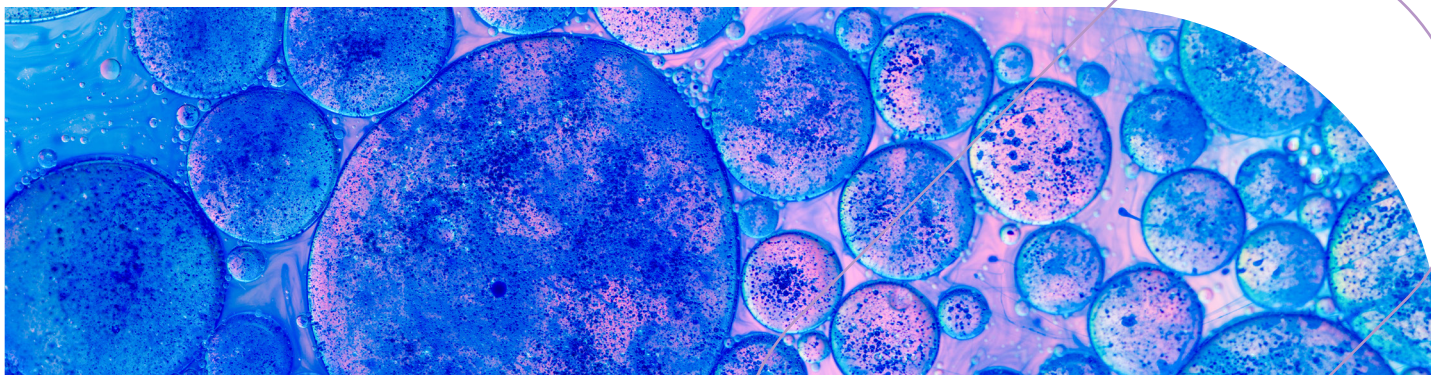
up to 150 l scale

In vitro biological testing of substances

e.g. cytotoxicity, anti-inflammatory properties

Preparation of biological material for long-term storage

cell banks, lyophilisation



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PHARMACEUTICAL ANALYSIS

Pharmaceutical analytics

GMP-compliant quality control and testing of APIs, medicinal products, excipients, and pharmaceutical raw materials

Pharmacokinetics

Bioequivalence and bioavailability studies of medicinal products according to GLP



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VALUES

We work with passion, based on:

Professionalism

Commitment

Reliability

Partnership

POTENTIAL

Product and process innovation

from pilot scale to production in our own process halls

Completion of technological line distributed on the market

from 'concept to product

Process scaling

scale-up and scale-down of chemical and biotechnological processes

Development and competence

investment in technology and human resources with more than 170 scientists and specialists for companies investing in innovation

Analytical and registration support

for APIs and non-APIs

Laboratories and equipment

developing research facilities with specialised laboratories and modern equipment

High standards

GMP, GLP, ISO systems in place

Research platform

implementation of R&D projects

Inventions and know-how

patented solutions and know-how in the field of modern chemical processes that can be commercialised

Cooperation with leaders

cooperation with Polish and foreign business and academic partners



Łukasiewicz

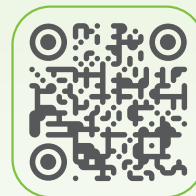
Industrial Chemistry Institute

**We create innovations
that shape a sustainable future.
Trust our knowledge and experience!**

LET'S MEET!

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