

Ústí Region
#NEW START

The word "HYDROGEN" is written in a bold, white, sans-serif font across the center of the image. The letters are positioned over two large, overlapping light gray circles that are set against a solid blue background. The circles overlap in the middle, and the text is centered horizontally across both.

HYDROGEN

IN THE ÚSTÍ REGION

HYDROGEN IN THE DNA

ÚSTÍ REGION - HYDROGEN VALLEY



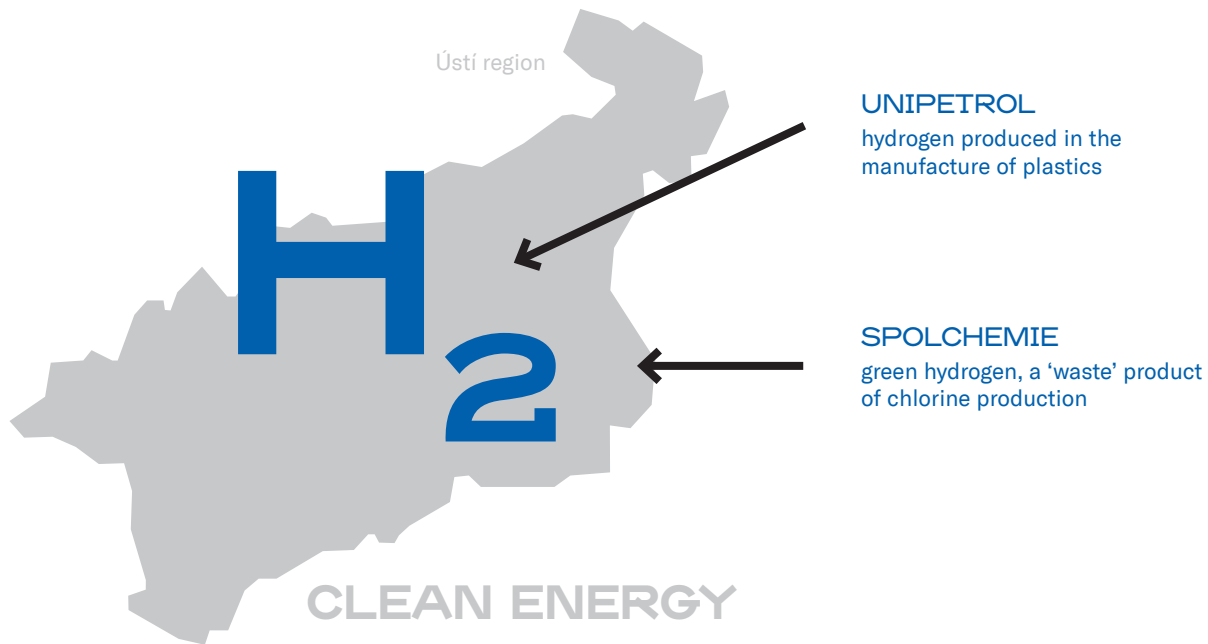
In February 2021, the Ústí Region was included in the European Hydrogen Valleys partnership.

In 2022, the Ústí Region Hydrogen Strategy was drawn up through a joint effort of the Hydrogen Platform.

In September 2022, as part of the Czech Presidency of the EC, Ústí nad Labem hosted the international H2 Forum of the Ústí Region.

SOURCES

Hydrogen is a by-product of existing chemical plants. To kickstart hydrogen as a source of energy, we don't need to come up with anything new, import anything, or manufacture anything. It's already all here.

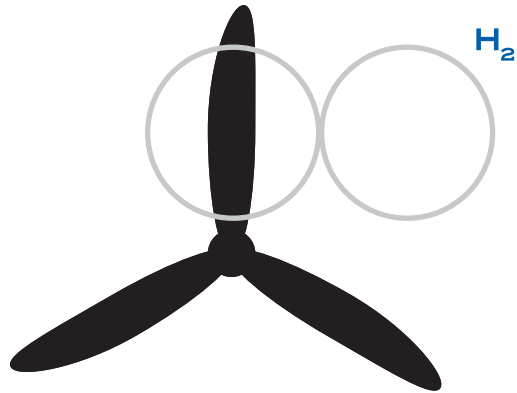


MANUFACTURING

In the event of successfully kickstarting hydrogen as a source of energy and exploiting its other advantages, it will be possible to make use of the surplus from existing and future energy producers in the production of hydrogen.

WIND POWER STATIONS AND PHOTOVOLTAICS

potential for production
of hydrogen from surpluses,
during fluctuations



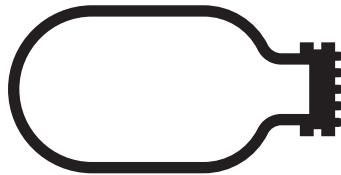
PUMPED-STORAGE HYDRO- ELECTRIC POWER STATIONS

hydrogen has the potential to
complement long-term energy
storage options



STORAGE AND INFRASTRUCTURE

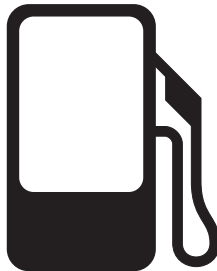
When it comes to hydrogen infrastructure, the region has strong (global) industry players. They see an opportunity for growth in hydrogen as a source of energy, possess the know-how and necessary facilities, and are willing to collaborate and drive progress.



CHARTI FEROX

Based in Děčín, Ústí Region –
global supplier of gas storage
tanks and systems

CLEAN FUEL



BENZINA

Unipetrol as a hydrogen producer
and the owner of the Benzina
network of petrol stations is
preparing the first hydrogen filling
stations (Prague, Brno, and Litvínov)

FIRST FILLING STATIONS

Litvínov (Unipetrol)
Ústí nad Labem (Spolchemie)

APPLICATIONS

Hydrogen represents a promising direction in a sustainable economy. In the area of mobility, it is a natural accessory to electromobility, but it has potential uses in other areas too.

TRANSPORTATION

The city of Ústí nad Labem is working towards the purchase of six hydrogen buses and the construction of a filling station within city limits (financing from ITI + Re:start).



in the future – cars,
trains, and ships



ECOLOGY

HEATING

Waste hydrogen as a source of energy for heating is already being used at Spolchemie's Ústí nad Labem facility. In the future, it will be used to heat additional facilities, and even households.



“In 2019, the Ministry of Regional Development allocated nearly 2 billion CZK for the purchase of low-emission public transportation vehicles, including hydrogen powered, as part of specific calls in the Integrated Regional Operational Programme initiated by the RE:START Strategy for Ústí, Moravian-Silesian, and Karlovy Vary regions. The potential for the use of hydrogen is, however, far greater and is an important project with significant restructuralization potential (...) The RE:START Strategy will continue to work towards securing subsidies and other sources of financing for the development of clean energy, and we very much welcome the creation of a strong partnership between the key players in Ústí Region.”



GABRIELA NEKOLOVÁ,
CHAIRWOMAN OF THE ECONOMIC AND
SOCIAL COUNCIL OF THE ÚSTÍ REGION

“Hydrogen has amazing potential, and its application represents a great research challenge. That’s why in collaboration with the University of Chemistry and Technology, Prague the Czech Technical University, and prospective other universities we’re focusing on basic research in the safe storage of hydrogen, among other things. We’re also preparing a specialized study programme called Energetics For Clean Energy.”

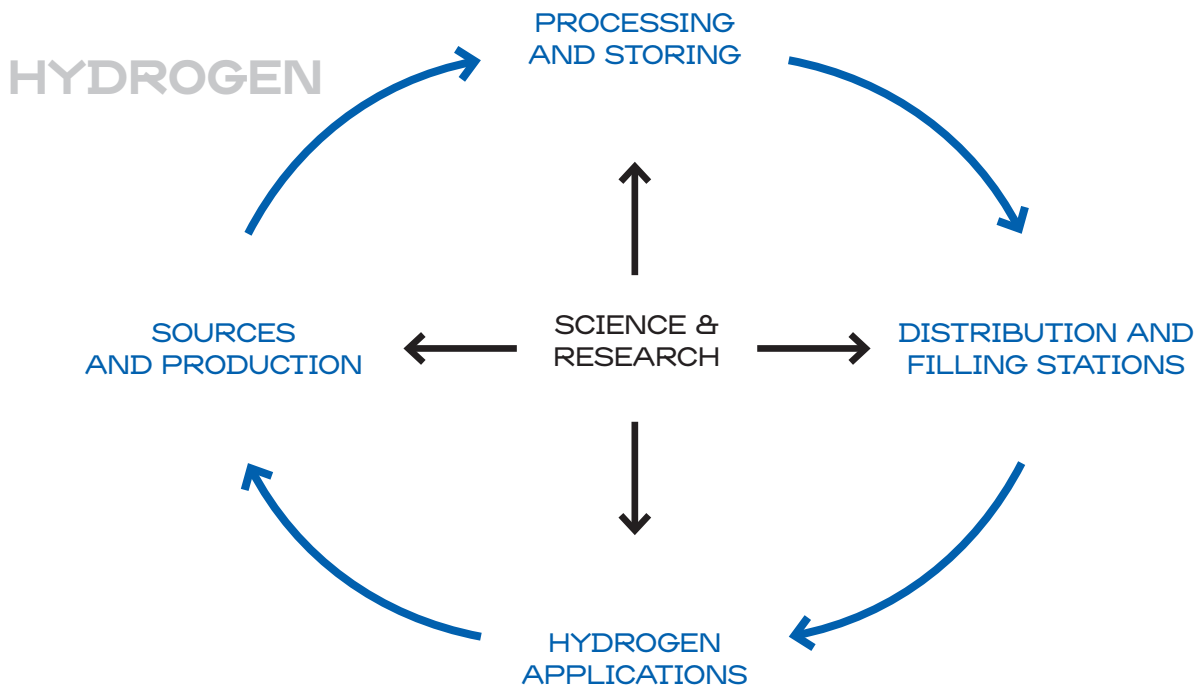
MARTIN BALEJ,

RECTOR OF JAN EVANGELISTA PURKYNĚ
UNIVERSITY IN ÚSTÍ NAD LABEM



SCIENCE & RESEARCH

The Faculty of Mechanical Engineering at Jan Evangelista Purkyně University in Ústí nad Labem offers classes in energetics and will soon be opening enrolment for a specialization in clean energy. The Faculty of Mechanical Engineering at Jan Evangelista Purkyně University is also preparing to implement an expansive project focused on, among other things, the subject of the most efficient storage of hydrogen.



HISTORY

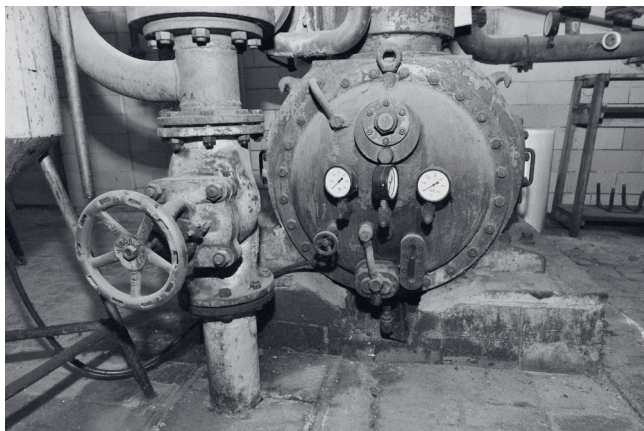


Photo:

← Original compressor room,
Jiří Preclík, Municipal Museum
of Ústí nad Labem

↘ A balloon filled by hydrogen in Usti,
Municipal Museum of Ústí nad Labem
Collections

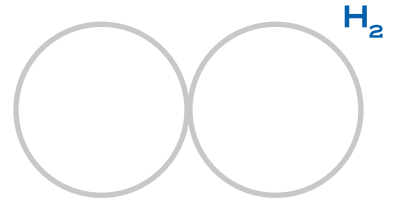
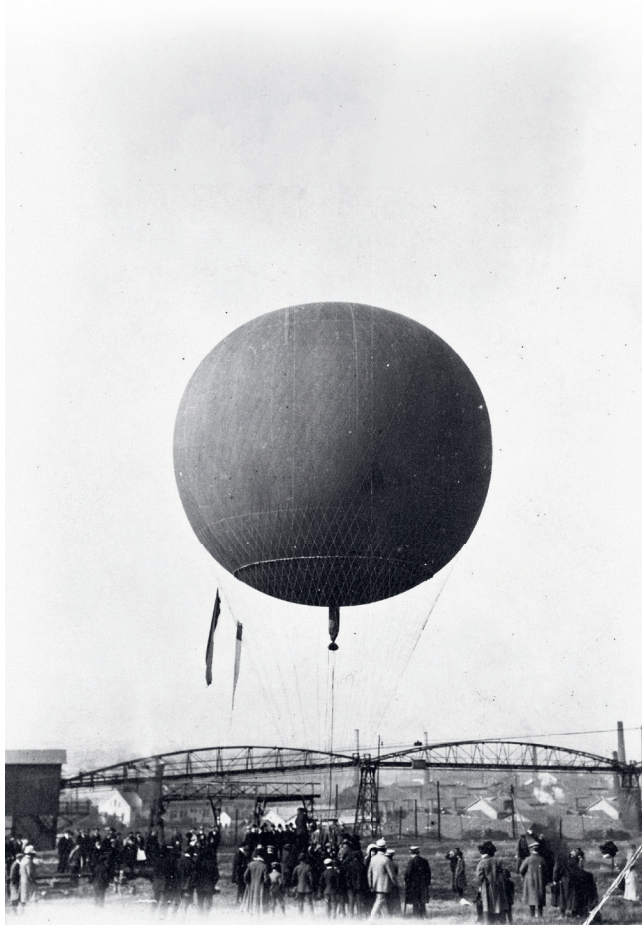
1899

Hydrogen was produced in the Ústí chemical plant as a derivative, a by-product of hydrochloric acid production.

1911

Beginning in 1911, hydrogen was used at the Schicht factory for hardening fat.

To this day, the premises of the Glencore manufacturing plant still house the compressor room, where hydrogen was compressed and subsequently used for hardening fat.



1912

In 1912, Austrian physicist Victor Franz Hess took advantage of Ustí hydrogen to fill a balloon he used to ascend to an altitude of 5,350 m above the city of Ustí nad Labem , during which he conducted measurements confirming the existence of cosmic rays.

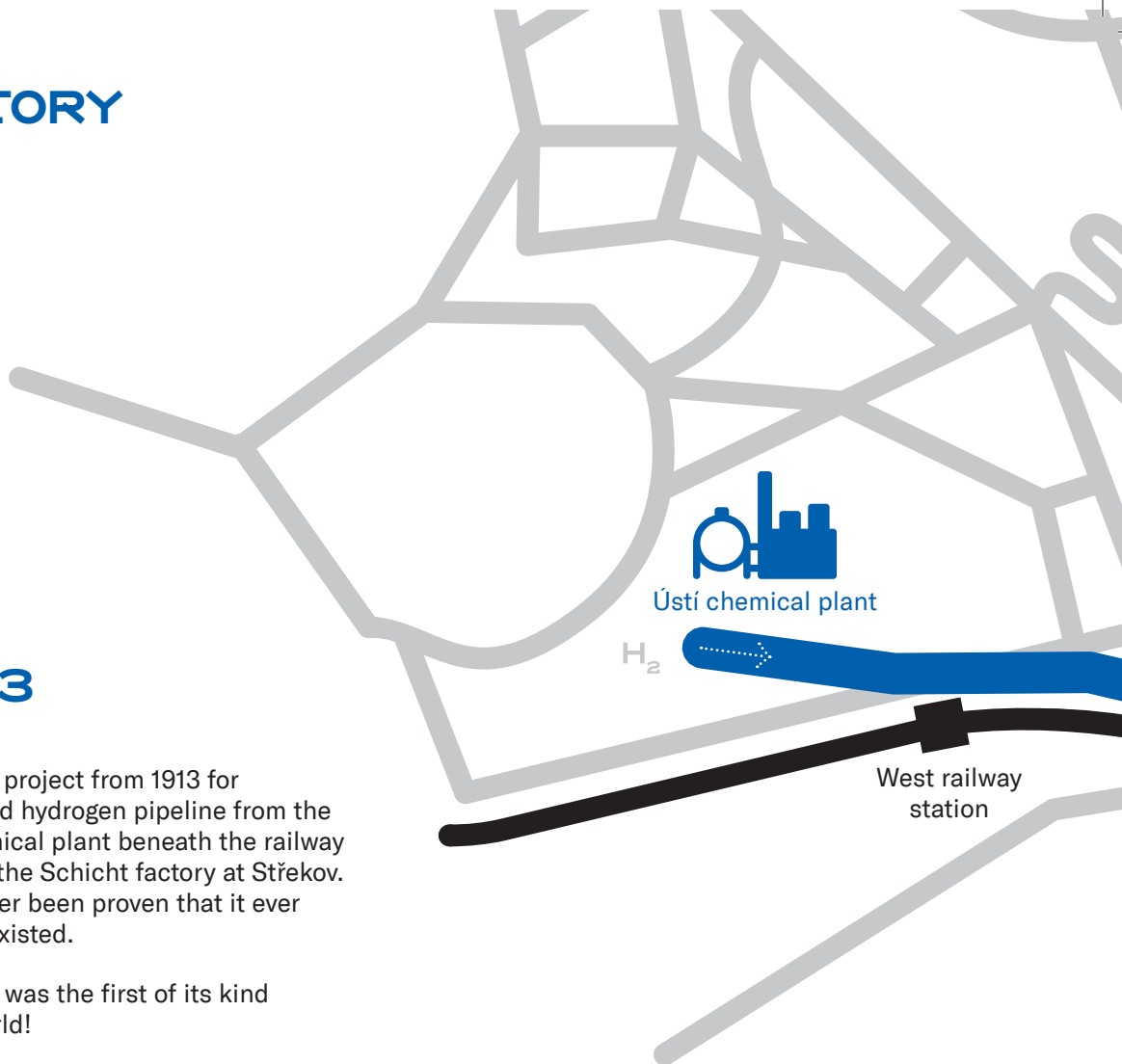
In 1936, he was awarded the Nobel Prize for his discovery.

HISTORY

1913

There is a project from 1913 for a so-called hydrogen pipeline from the Ústí chemical plant beneath the railway bridge to the Schicht factory at Střekov. It has never been proven that it ever actually existed.

If it did, it was the first of its kind in the world!



Ústí nad Labem

City centre

Main railway station

HYDROGEN PIPELINE

Labe

railway bridge

H₂

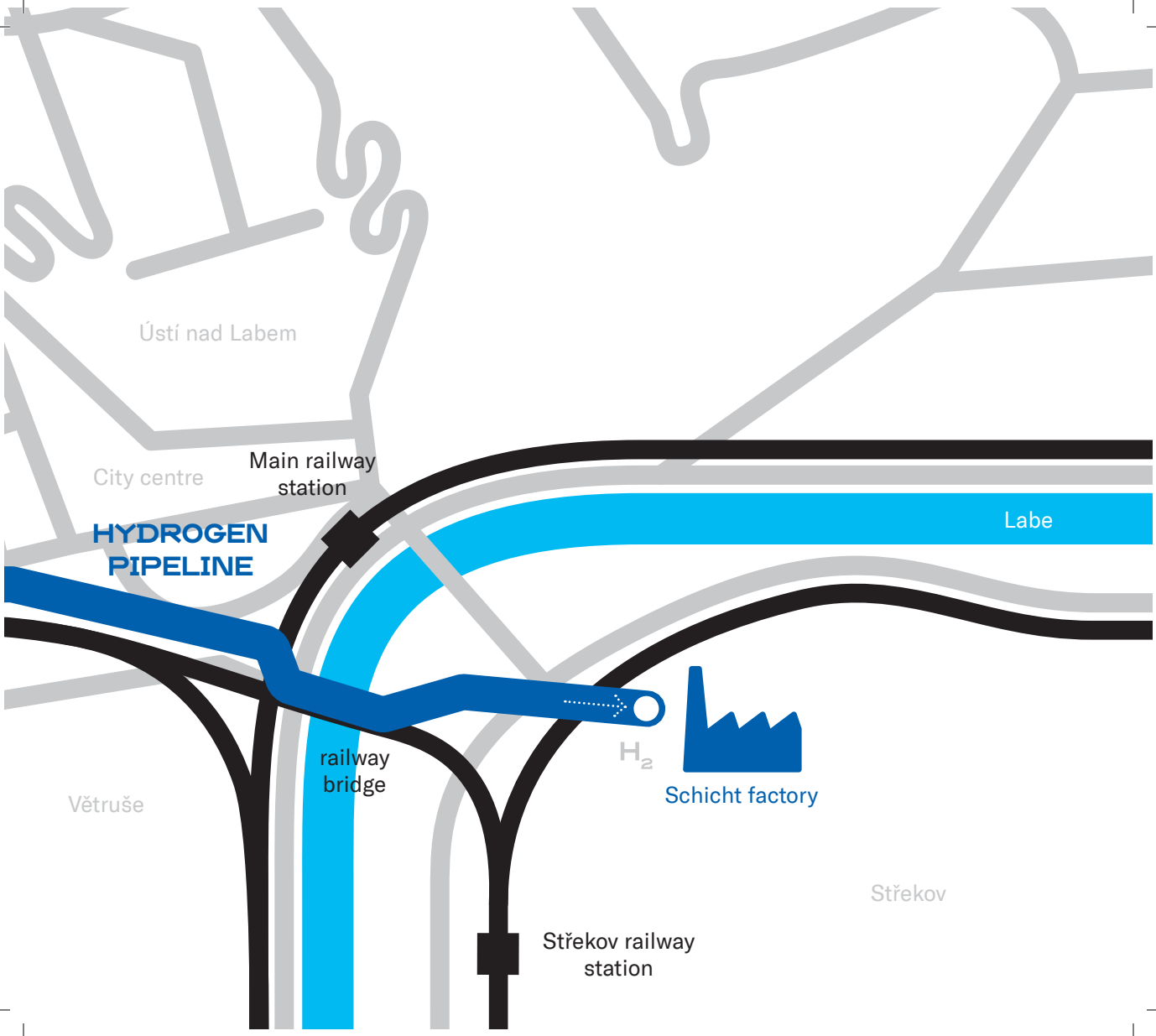


Schicht factory

Větruše

Střekov

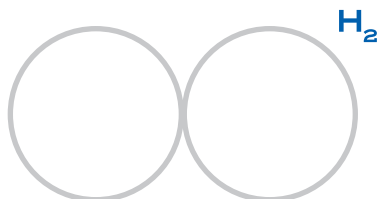
Střekov railway station



SUPPORT

In the Ústí Region, a number of key stakeholders from the ranks of institutions, independent groups, research organizations, and companies all see the importance of supporting and developing hydrogen as a source of energy.

THE HYDROGEN PLATFORM OF THE ÚSTÍ REGION (OF THE ECONOMIC AND SOCIAL COUNCIL OF THE ÚSTÍ REGION)



THE FUTURE

MEMORANDUM ON PARTNERSHIP AND COLLABORATION
IN DEVELOPING THE COMPREHENSIVE USE OF HYDROGEN
AS A SOURCE OF CLEAN ENERGY IN THE ÚSTÍ REGION.

Ústí region

HSR-ÚK

Hospodářská a sociální rada
Ústeckého kraje

ICUK



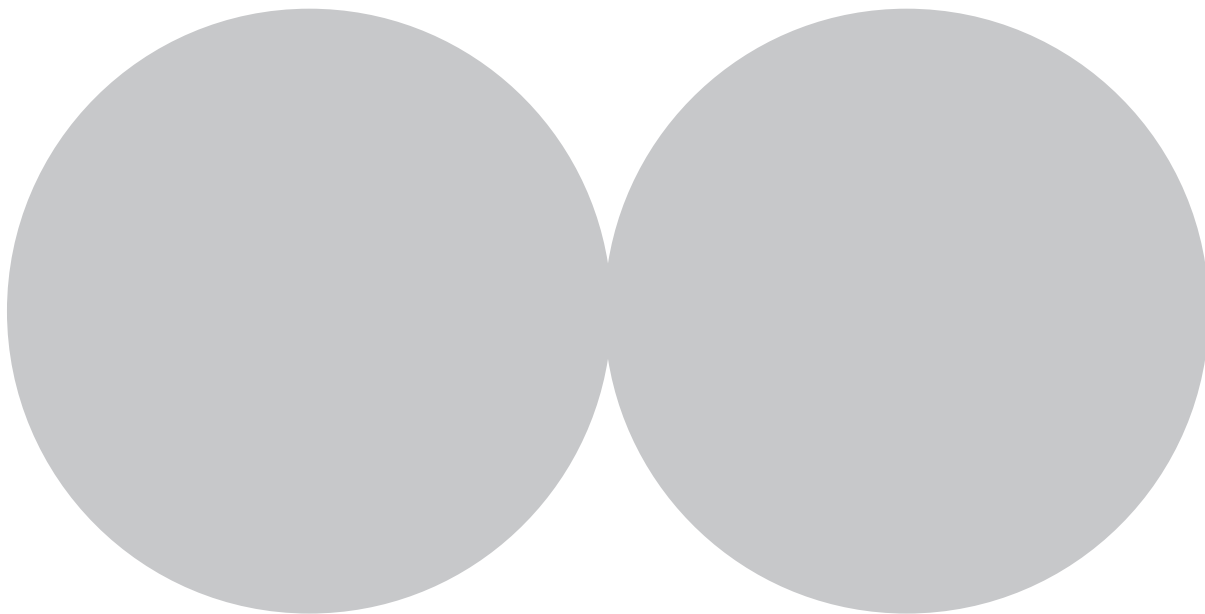
Ústí



#IT'S CHEMISTRY

#IT'S ENERGY

#IT'S OPPORTUNITY



Spolufinancováno
Evropskou unií



MINISTERSTVO ŠKOLSTVÍ,
MLÁDEŽE A TĚLOVÝCHOVY

**INNOVATION CENTRE
OF THE ÚSTÍ REGION**