



„Alte Schmelz“ St. Ingbert





„Die Schmelz“, the St. Ingbert factory of the „Rümelinger und St. Ingberter Hohofen und Stahlwerke AG“ in the year 1913

**Overview of the location „Alte Schmelz“:
From the historical ironworks
via the present industrial monument
to the future „CISPA Innovation Campus“**

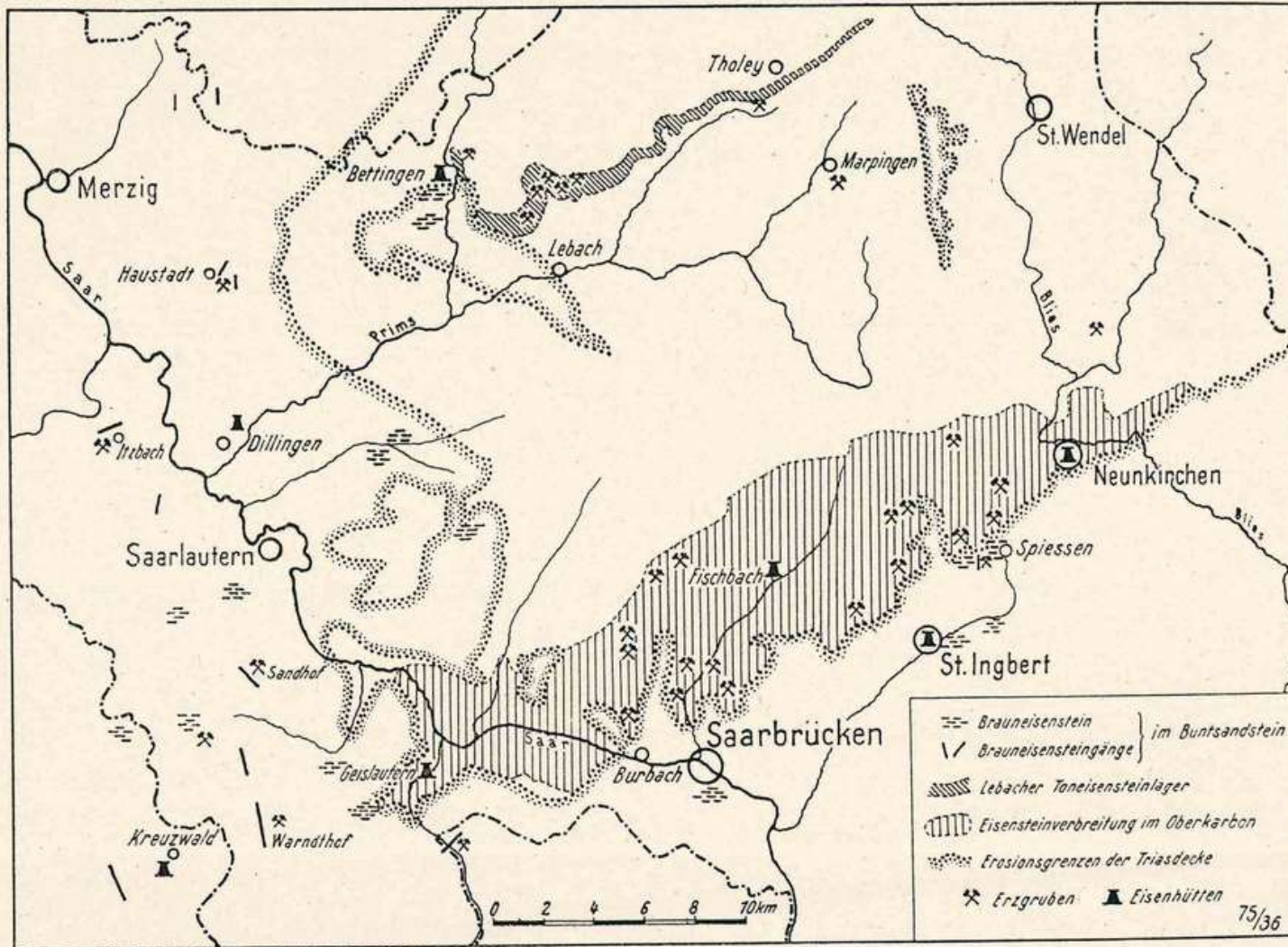
Rolf Hempelmann

MINT-Campus Alte Schmelz e.V. St. Ingbert

Transferring Sustainable Electrochemistry, Saarland University and KIST Europe

Regionale Iron Ores

<https://www.kaminplattensammlung-kremer.de/geschichtliches/heimische-eisenerzvorkommen/>

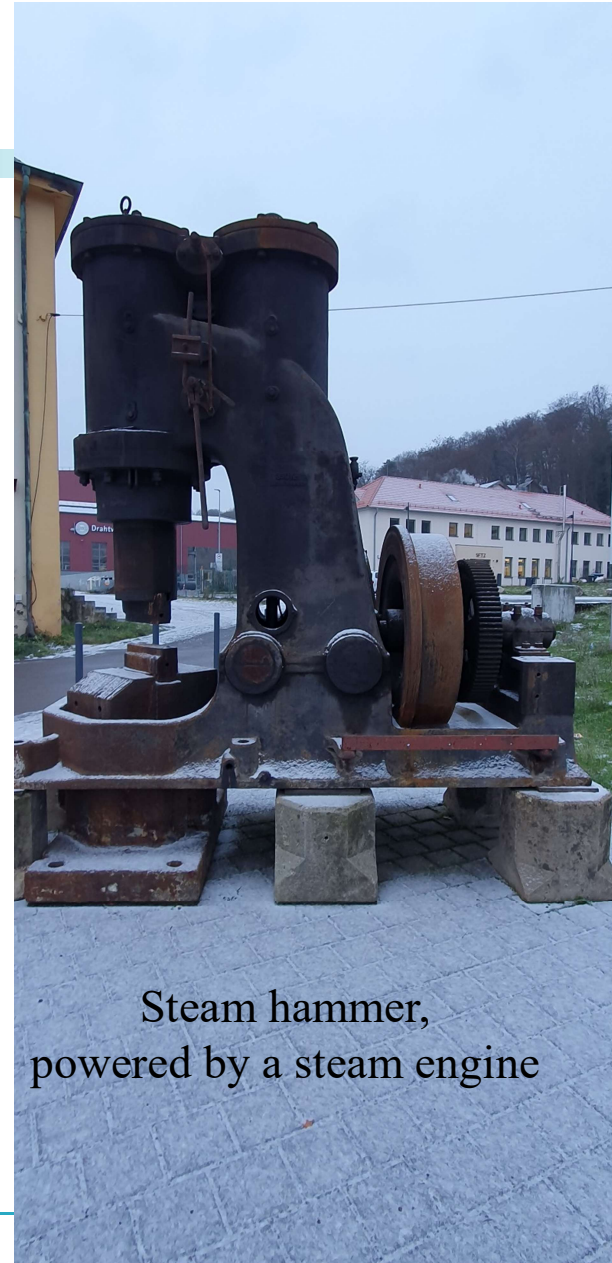
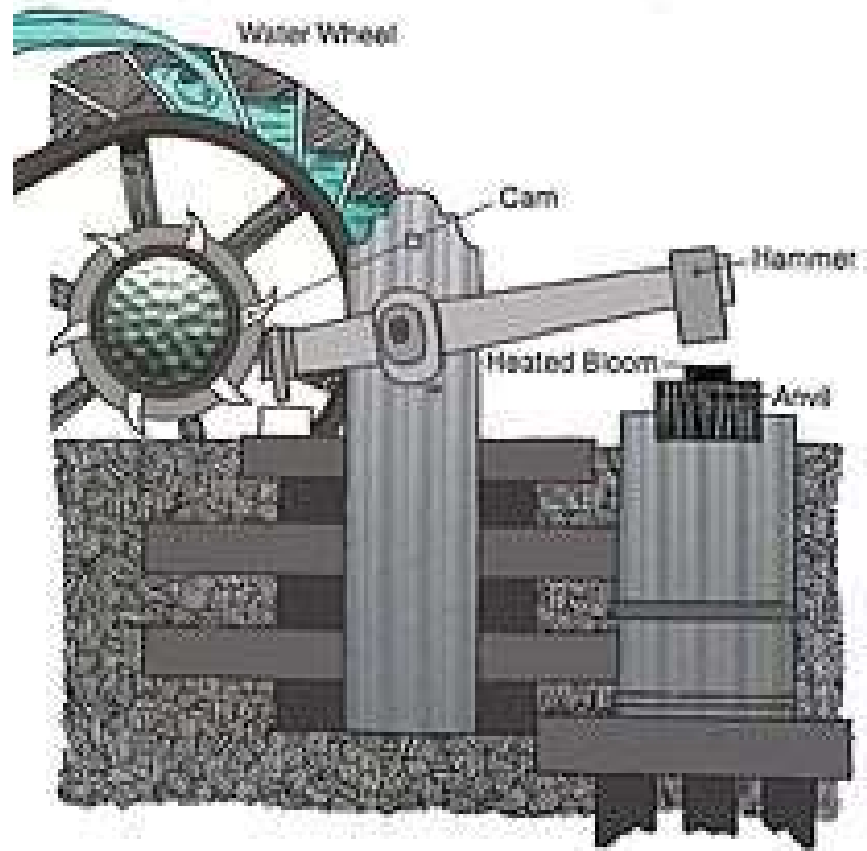


Brauneisenstein (brown iron ore):
Limonite
 FeO(OH)

Lebacher Toneisensteinlager
(Lebacher Eier):
Siderite
 FeCO_3



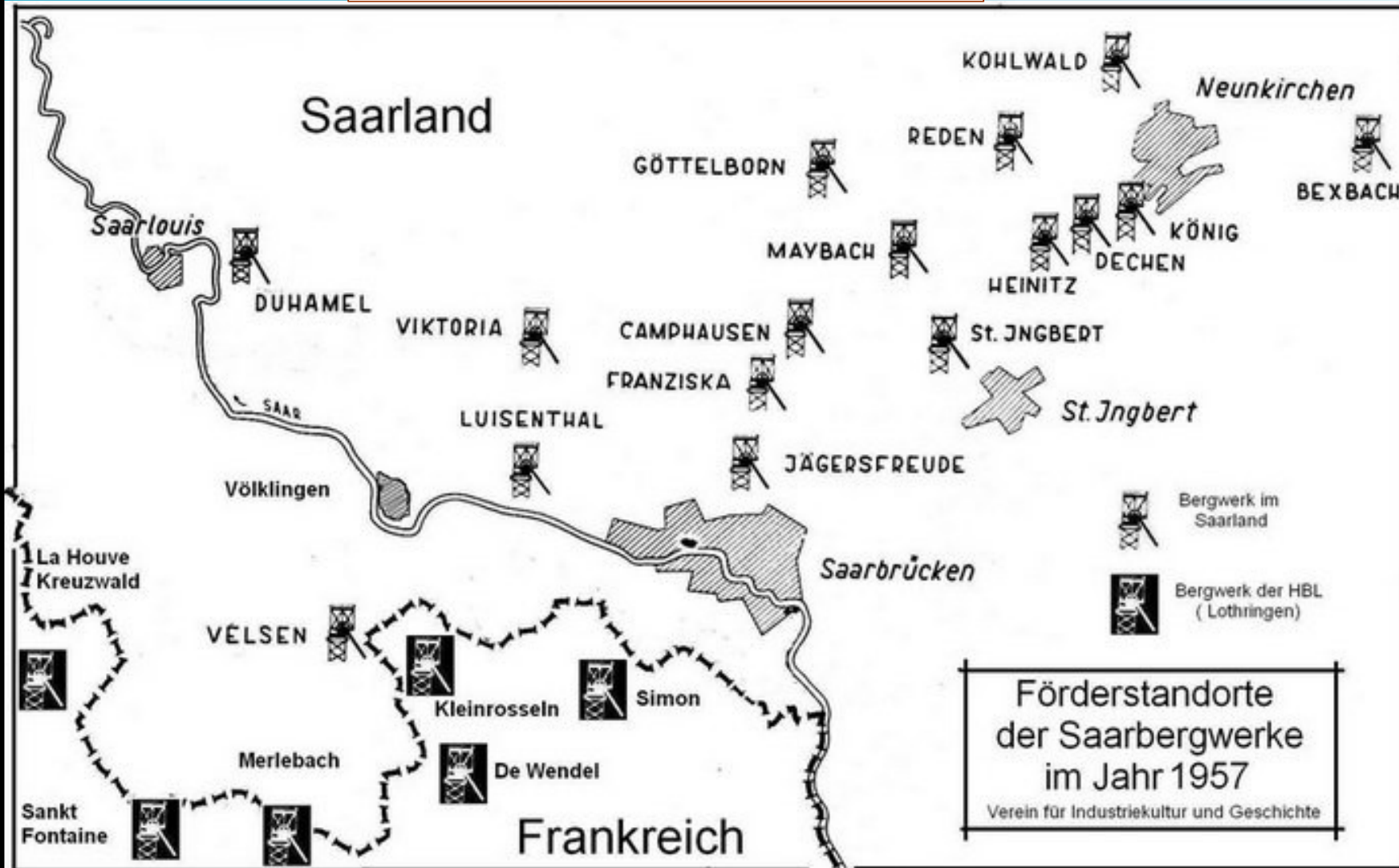
Water power, Hammer mill



Steam hammer,
powered by a steam engine

Regional Coal Mines

<https://www.saar-nostalgie.de/Saargruben.htm>





Year	History of the steelworks	Work-force	Pop. IGB
1732	Tenants Gottbil, Lehnen and Loth found ironworks		
1788	Lease taken over by Philipp Heinrich Krämer	36	
1804	Sophie Krämer buys the work		2.500
Mid-century	Coal-fired puddle furnace, foundry; Steam engines. St. Ingbert is the most important industrial location in the Palatinate		6.000
1905	Eisenwerk Krämer gives up self-employment: Rümelinger und St. Ingberter Hochöfen und Stahlwerke AG	2.200	
1920	Société des Hauts Fourneaux et Aciéries de Differdange - St. Ingbert-Rumelange (HADIR), Wire products and strip iron	200	
1932		1.300	
1962		1.236	
1984	Wire mill St. Ingbert	860	
2001		191	
today	Area divided into three parts: Western part: Saarstahl AG wire mill, in operation, very active Eastern part: recycling center, companies, technology center, ... Middle part: Ensemble of listed historic buildings		35.000

„Die Schmelz“ in the year 1913

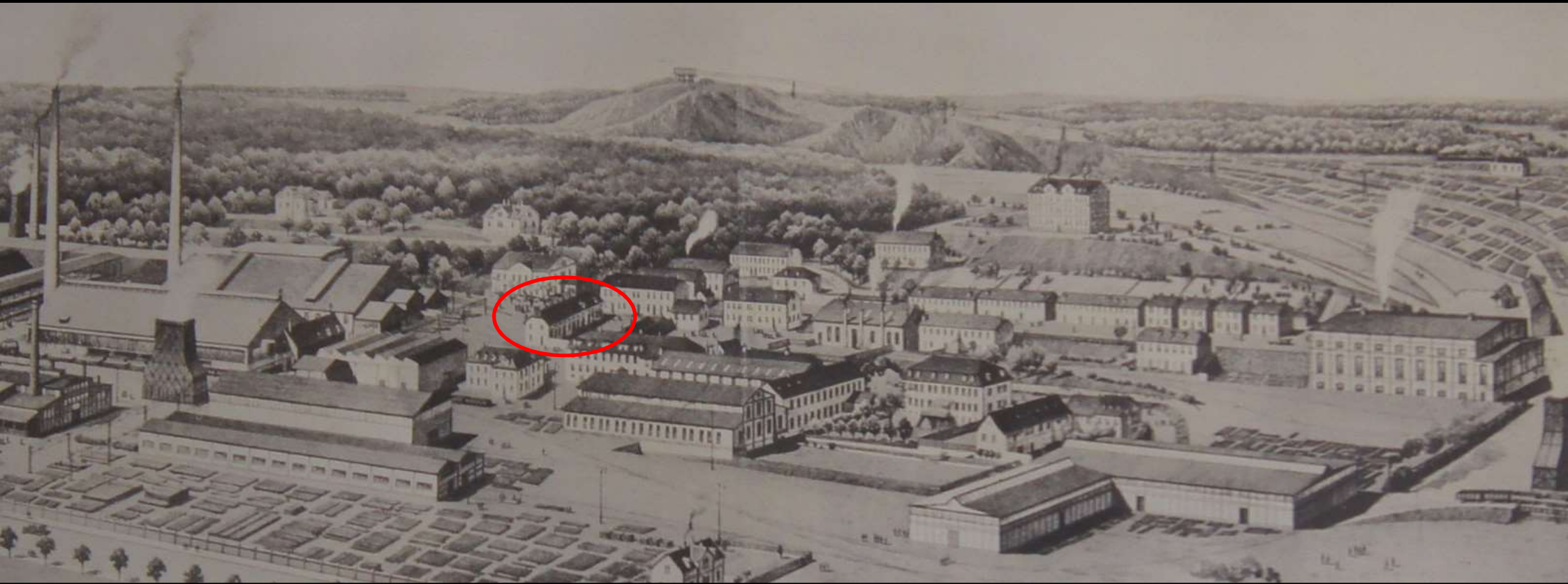




Foto SZ

Kulturdenkmal des Jahres 2021

*Historische Orte
der Gemeinschaft*

Vorbildliche Initiative

Ausgezeichnet vom Bund Heimat und Umwelt
in Deutschland und seinen Landesverbänden

MINT-Campus Alte Schmelz

Laborgebäude des Eisenwerks (errichtet 1970)



2012

Chemistry lab in the previous lab building



14.03.2012





20.08.2021





2021: 780 SLVs
2022: 2150 SLVs



SFTZ topics ↔ context

SFTZ Subject Areas	Cultural and Industrial Surroundings:
Sustainable („Green“) Chemistry, Water and Soil Analyses, Ecological Biology / Bio-economy, Mechatronics / Chemical Sensors	<p style="text-align: center;">climate topics of the</p> <p style="text-align: center;">UNESCO Biosphere Reserve Bliesgau</p>
Metallurgy	<p style="text-align: center;">Industrial history of its location (“Alte Schmelz”) Decarbonized future of the steel industry („Green Steel“).</p>
Electrochemistry, Hydrogen	<p style="text-align: center;">eMobility:</p> <p style="text-align: center;">PEM Water Electrolyser @ Hydrogen HUB in Fenne PEM Fuel Cell stack components in Homburg Lithium-Ion Battery production in Überherrn.</p>

SFTZ mission

In the form of age-appropriate experiments the SFTZ enables young people to take a look into the decarbonised future of the region, of the country and beyond, in line with the EU's Green Deal.

In this way, young people can draw conclusions about sustainable, resource and climate-friendly behaviour for their own future.

Global
UNESCO
Sustainable Development Goals
SDGs



- 4 Quality Education
- 7 Affordable and clean energy
- 13 Climate Action



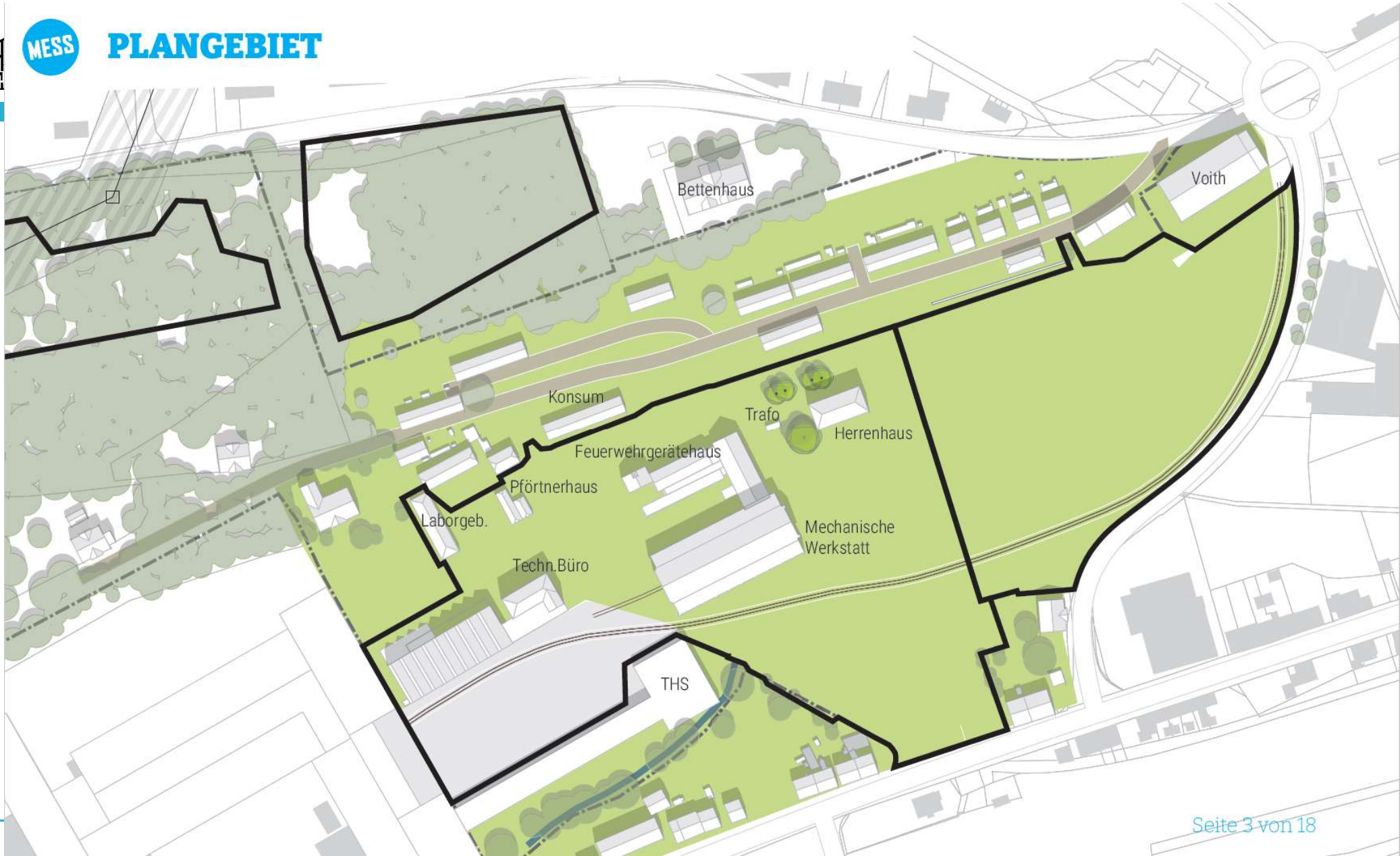




modern **hydrogen** high-convection annealing technology
with corresponding protective gas effect:
classic annealing defects are virtually eliminated.
Waste heat is not being used (yet)

MESS

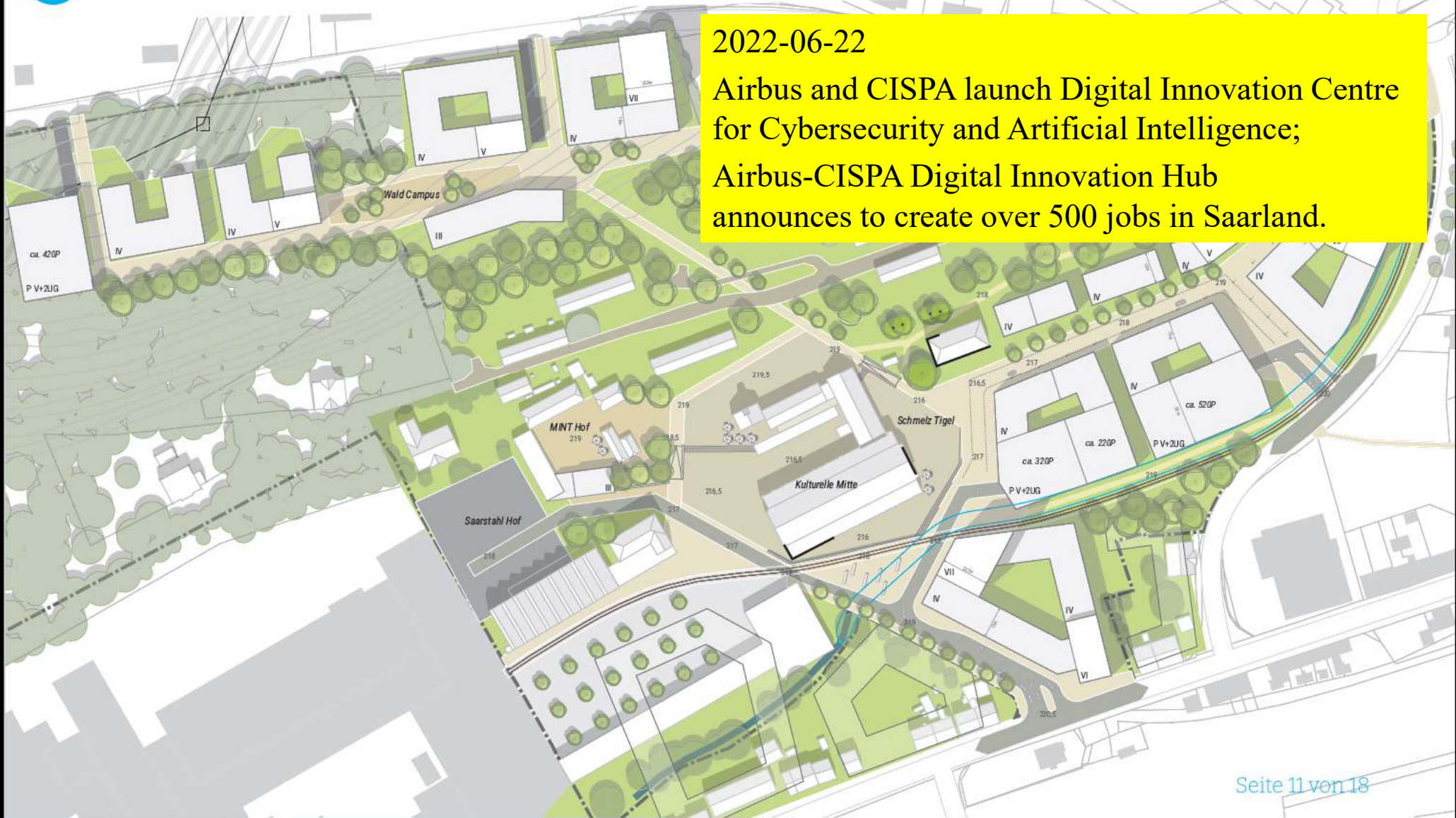
PLANGEBIET





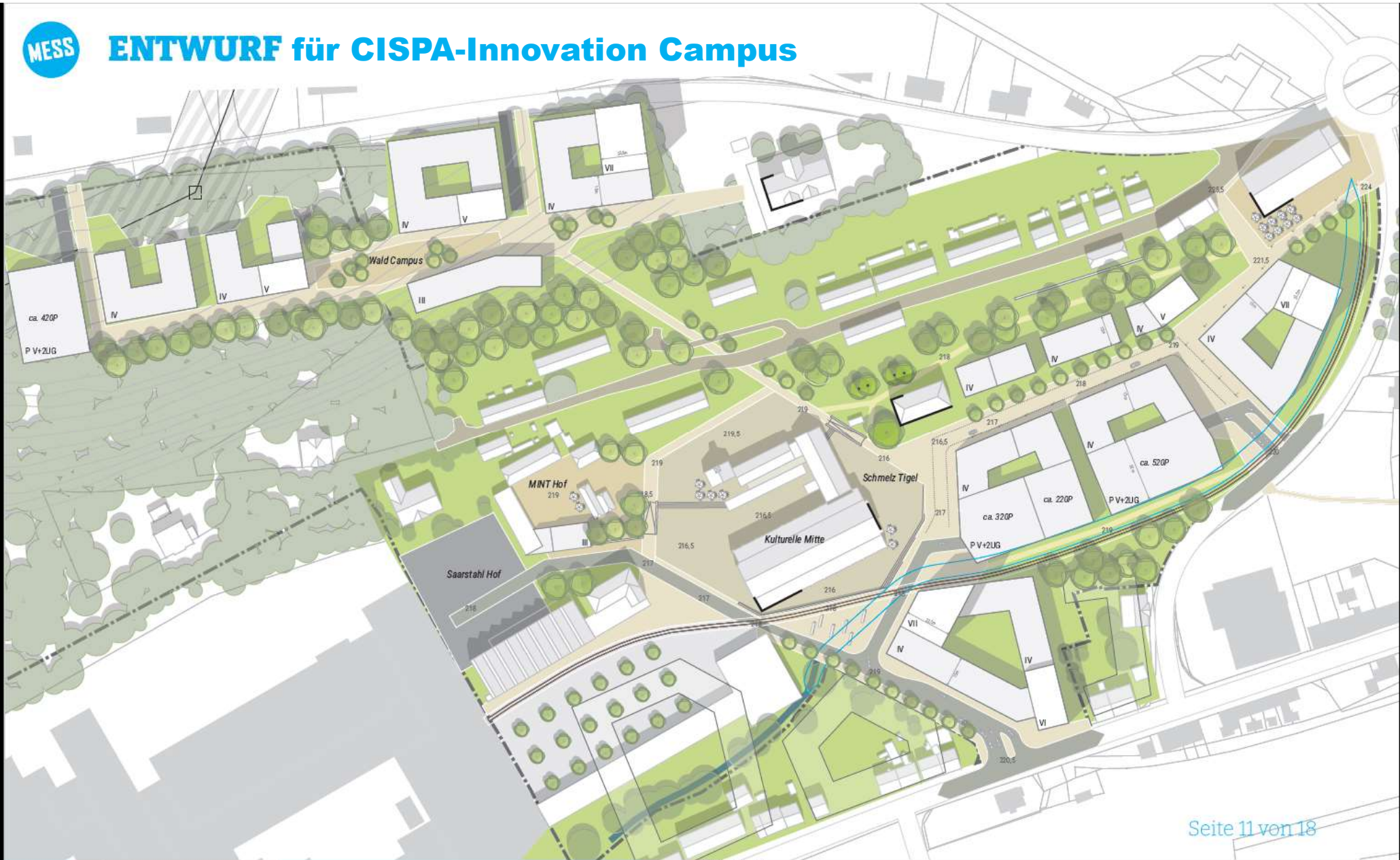
ENTWURF für CISPAnnovation Campus

2022-06-22
Airbus and CISPAnnovation launch Digital Innovation Centre for Cybersecurity and Artificial Intelligence; Airbus-CISPAnnovation Digital Innovation Hub announces to create over 500 jobs in Saarland.





ENTWURF für CISPА-Innovation Campus



Eisenerz

Iron production nowadays

Mineral: Haematite, Fe_2O_3

Origin: Australia, Sweden

„Lebacher Ei“

Mineral: Siderite, FeCO_3

origin: Lebach, Saarland

Brauneisenstein

Mineral: Limonite, $\text{FeO}(\text{OH})$

origin: local in the area



Grüner Stahl aus sog. Lebacher Eiern

Helena Dell, „Jugend forscht“- Projekt



Lebacher Eier (Siderit) wurden auf der Schmelz in St. Ingbert ab 1822 verhüttet (vorher lokaler Brauneisenstein (Limonit), später Lothringer Minette, ebenfalls Brauneisenstein) also enger Bezug zur Historie des Standorts