

# FRAUNHOFER INSTITUTE FOR SOLAR ENERGY SYSTEMS



Joachim Koschikowski

Fraunhofer Institute for Solar Energy Systems ISE

**BrineMine Webinar on:**

**Sustainable mineral and Freshwater  
Extraction from geothermal brines in Chile**

25.05.2021

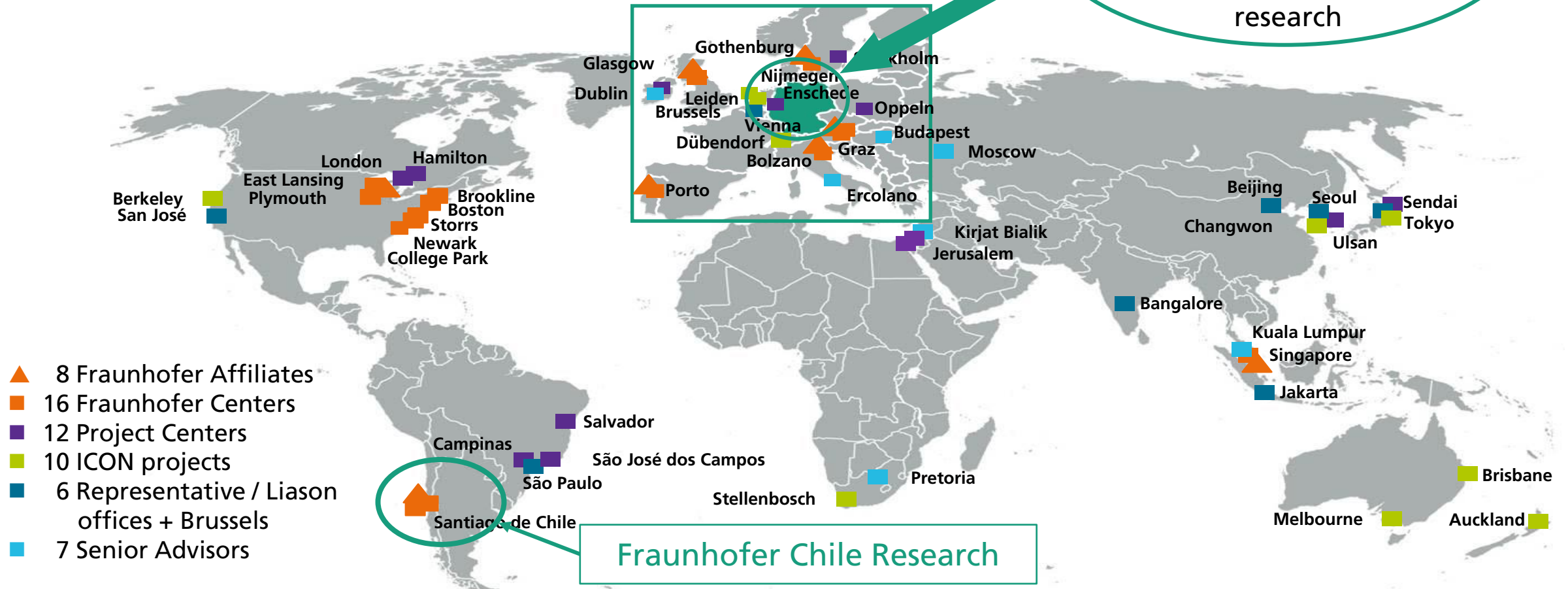
[www.ise.fraunhofer.de](http://www.ise.fraunhofer.de)  
<http://s.fhg.de/water-treatment-separation>

# Welcome and Introduction

## The Fraunhofer Society – Bridging the Gap Between Basic Research and Industrial Application

### Germany:

- 75 Institutes
- 29.000 Employees
- 86% Turn over from contractual research



# Welcome and Introduction

## Fraunhofer Institute for Solar Energy Systems - ISE

Staff: about 1260 - Budget 2019: about €100 million - Established: 1981 (40. Anniversary this year)

### Business Areas ISE



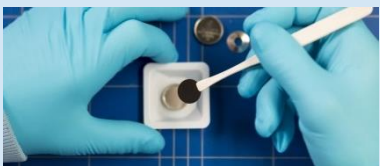
Photovoltaics



Energy Efficient Buildings



Solar Thermal Power Plants and Industrial Processes



Hydrogen Technologies and Electrical Energy Storage

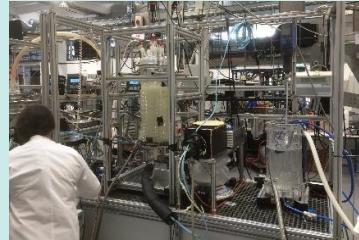


Power Electronics, Grids and Smart Systems

### Research Group "Water Treatment and Separation"



Component development for liquid – liquid and liquid – solid separation processes



Upscaling of treatment processes from lab scale to industrial scale



Design, construction and operation of demonstration systems for industrial wastewater treatment



Design and operation of renewable energy driven desalination and water treatment systems



# Welcome and Introduction

## Short Introduction to the Project



Extraction of valuable materials and drinking water from geothermal resources in Chile "BrineMine"

- Bilateral Project funding scheme "BMBF CLENT II"
- Starting date March 2019
- End date expected February 2023
- Actually, significant interest of the subject is rising in Germany as well e.g. in the upper Rhine valley

A promotional poster for the BrineMine project. It features a teal background with a mountain range. The text "BrineMine" is prominently displayed in white. Below it, the text "Sustainable mineral and fresh water extraction from geothermal brines in Chile" is written in white. At the bottom left, a white circle contains the number "25", followed by the text "may 15:00 pm | Germany". On the right side, there are two circular inset images: the top one shows industrial equipment in a laboratory setting, and the bottom one shows a person in a red jacket and yellow gloves working in a field with geothermal equipment.

## BrineMine

Sustainable mineral and fresh water extraction from geothermal brines in Chile

**25** **may**  
15:00 pm | Germany



# Welcome and Introduction

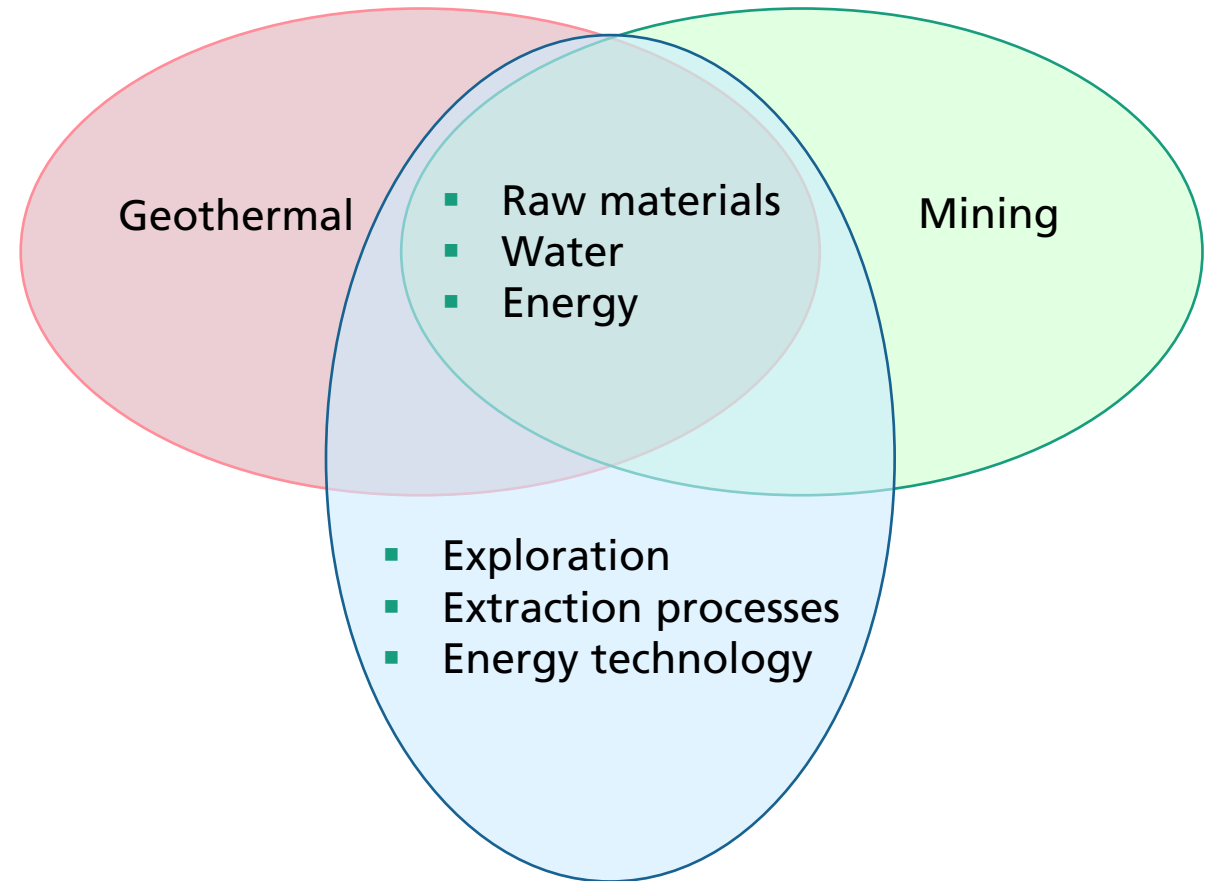
## Short Introduction to the Project



### Scope of the BrineMine project:

- Exploration and techno- economic assessment of minerals and geothermal resources in Chile
- Development of technologies for mineral and water extraction from brines with focus on geothermal process engineering
- Demonstration of the technology in small scale but real environment in Chile
- To encourage the interdisciplinary and transnational R&D cooperation between Chile and Germany

### Intersections between Mining and Geothermal



# Welcome and Introduction

## Short Introduction to the Project



### Scope of the BrineMine project:

- Exploration and techno- economic assessment of minerals and geothermal resources in Chile
- Development of technologies for mineral and water extraction from brines with focus on geothermal process engineering
- Demonstration of the technology in small scale but real environment in Chile
- To encourage the interdisciplinary and transnational R&D cooperation between Chile and Germany

### BrineMine project partner:



# Welcome and Introduction

## Short Introduction to the Project



### Main objectives of our workshop today:

- Sharing our actual results with Industry and academia in Chile and Germany
- Receiving feedback, advice and new incitation from different stake holders
- Encouraging industry for new joint research projects with our project team
- Find potential sites for the conduction of demonstration trials in 2022







Thank you very much on behalf of  
the BrineMine team for joining!

I wish you an interesting workshop  
and a fruitful discussion!

[Joachim.Koschikowski@ise.Fraunhofer.de](mailto:Joachim.Koschikowski@ise.Fraunhofer.de)