



# Liquid Materials

Anwendungen mit  
ionischen Flüssigkeiten  
&  
Kooperationsmöglichkeiten  
mit der  
University of Berkeley

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# Ionic Liquid (IL) – The Difference!



# A new material



**IONIC LIQUIDS ARE  
'RUNNY SOLIDS'  
RATHER THAN LIQUIDS**

**TOM WELTON, APRIL 2010, DALIAN - CHINA**



# Why ionic liquids?



Ionic liquids are a completely new class of materials:

- Combining properties and advantages of liquid as well as solid materials
- Allowing for the development of totally new processes and technologies

It is certain that ionic liquids will change many aspects of modern industries.



# Properties

- Billions of structures
- remain liquid over extremely large ranges of temperature
- Virtually no vapour pressure, no boiling point
- Virtually non flammable
- Excellent thermal stability up to 300°C and more
- Catalytic and unusual solvation properties
- Extreme low compressibility
- No cavitation even at up to -1000bar tension
- Corrosion: Analogy to inorganic salts falls short
- Nanostructural segregation, Magnetic properties
- Very small friction coefficients, good lubrication properties
- Electrical conductivity 50 mS/cm down to nearly zero
- Bacteriozide to bacteriostatic properties: No biofouling



# proionic's key facts



## Mission and strategy

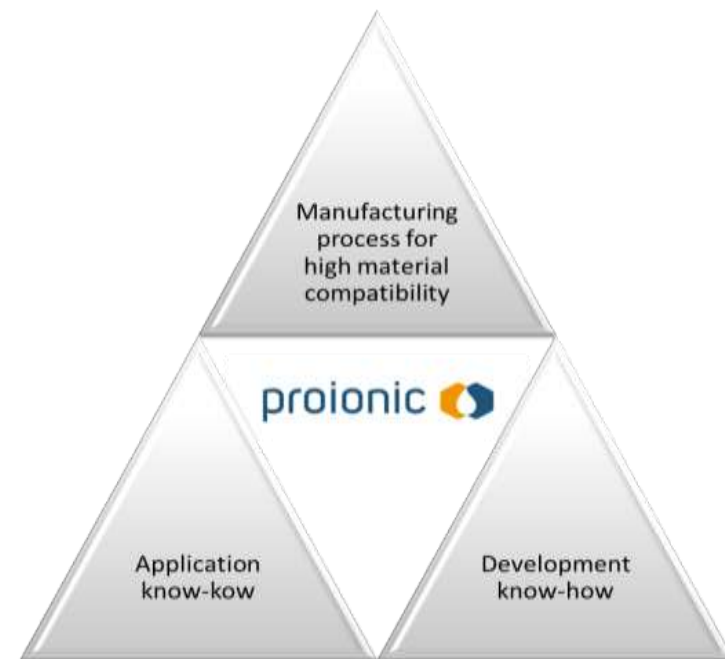
Production and sale of applied ionic liquids

through:

- Development of technologies by application of ionic liquids  
with industrial partners
- Development of ionic liquids

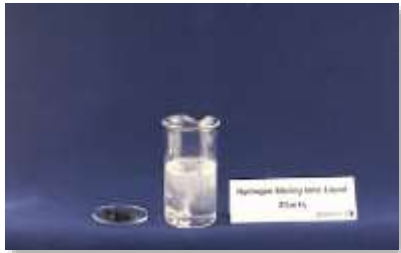
## Key Facts

- Founded 2004, one of 5 leading suppliers of technologies and products worldwide\*
- >100 Patents positioned, 22 granted
- Patented production route (CBILS®)
- High end analytical labs
- Technical process lab
- Industrial IL production
- Ionic liquid skilled process engineers



# Proionic Pipeline 2016

Microwave adhesives



IL-Antibiotics

Safe H<sub>2</sub> Storage

Purification Natural Gas

CO<sub>2</sub> Separation

High Tech Hydraulics

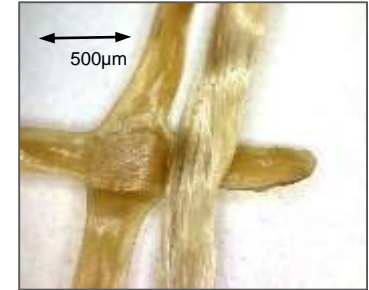
HVAC / Gas Drying

High Tech Lubricant II

Rubber Technology

High Tech Lubricant I  
(Thermo Recuperation)

Welding of aramid fibers



High Temperature Cooling





Post

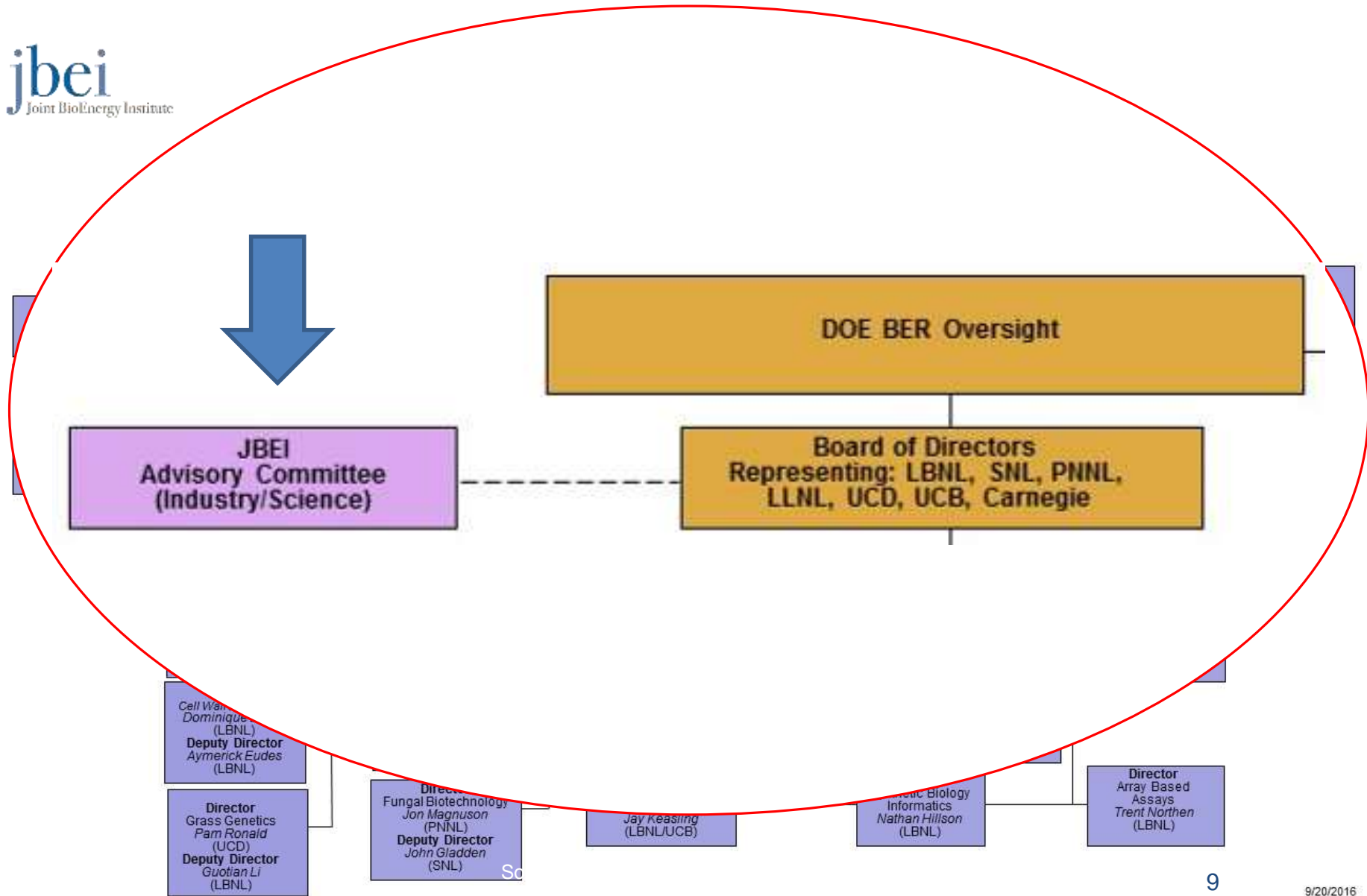
### JBEI Industry Interactions

Technology Division





# JBEI: Organizational Chart





A chance to shape the future

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