



WISE. STRETCHING
INNOVATION.



Wiringless **I**mplantable **S**tretchable **E**lectronics

First to produce Neuro-leads:

- **highly conformable,**
- **completely stretchable,**
- **minimally invasive.**

Fast market entry with Cortical Grids.

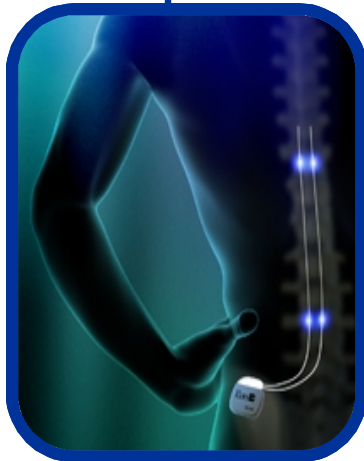
Market Breakthrough with Foldable SCS paddles.

**We will revolutionize
leads manufacturing**

Neuromonitoring Electrodes (iEEG)



Neurostimulation Leads (SCS, DBS)



Neuromonitoring applications:

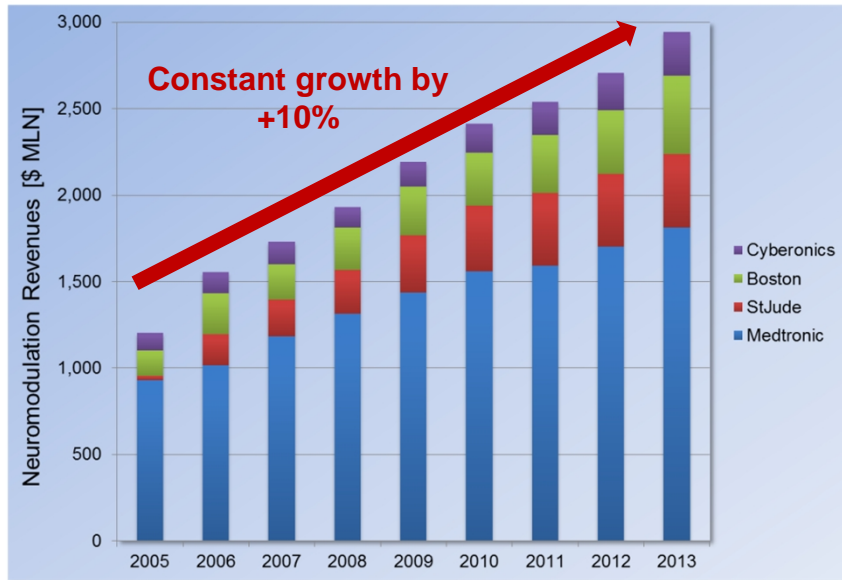
- ☐ Monitoring during surgery
- ☐ Identification of epileptogenic zones

Neuromodulation therapies:

- ☐ Chronic pain (SCS)
- ☐ Parkinson's disease
- ☐ Dystonia
- ☐ Epilepsy
- ☐ Depression
- ☐ and many others ...

The Neuromodulation Market

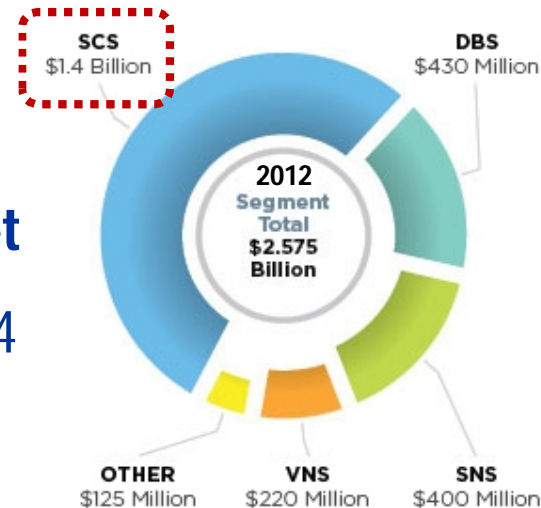
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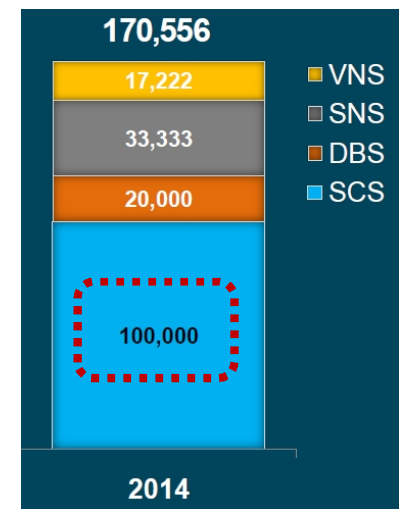
Revenue data from Corporate Annual Reports (2005-2013)

- SCS makes over 50% of the market
- Over 100,000 SCS implants in 2014

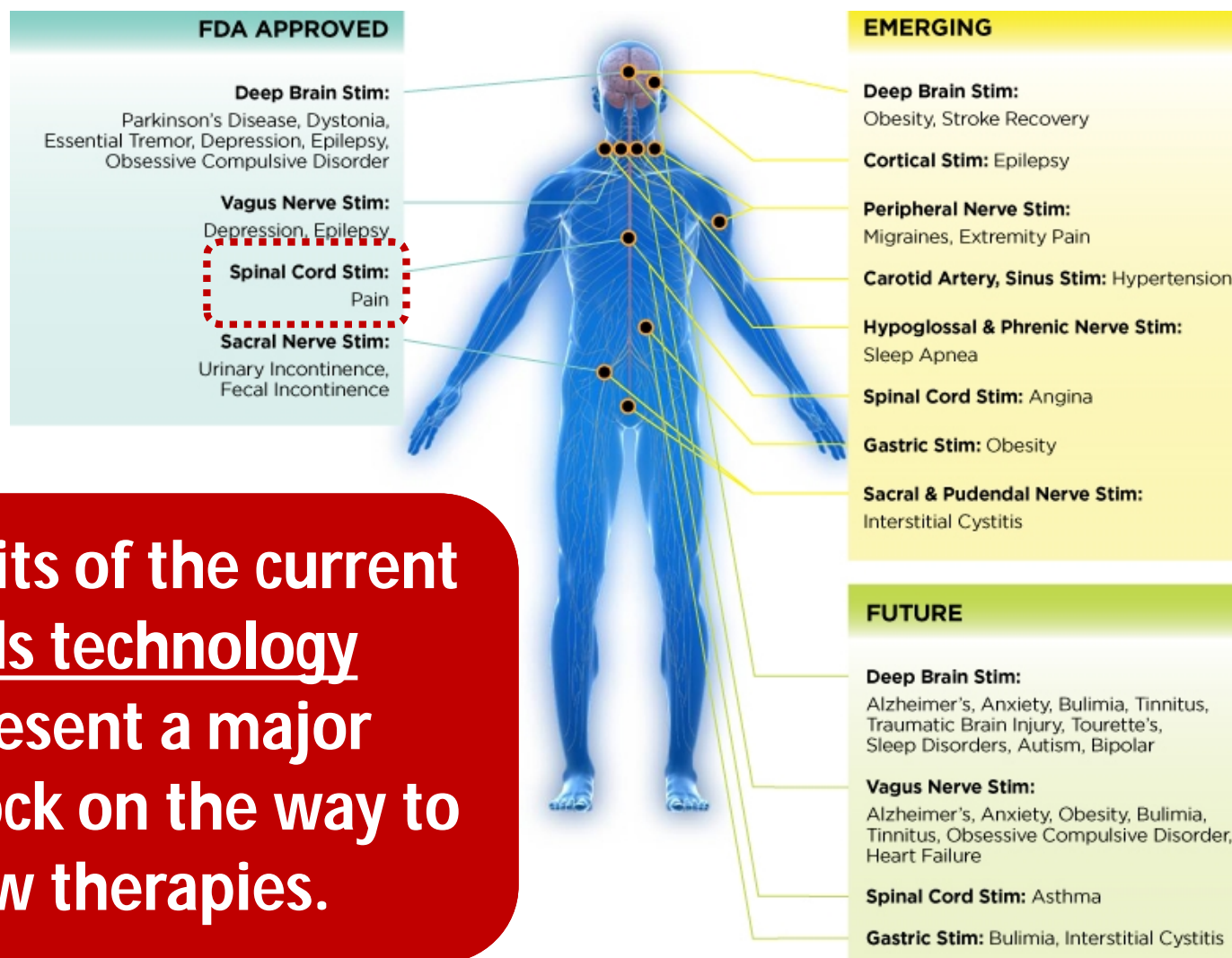
- Neuromodulation Rev. (2013): \$2.8B
- 15% of Revenues come from Leads



QIG, *The Neurostimulation Market*.
April 2011



Greatbatch Investor Meeting,
March 2011

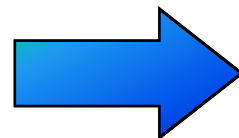


The limits of the current leads technology represent a major roadblock on the way to new therapies.

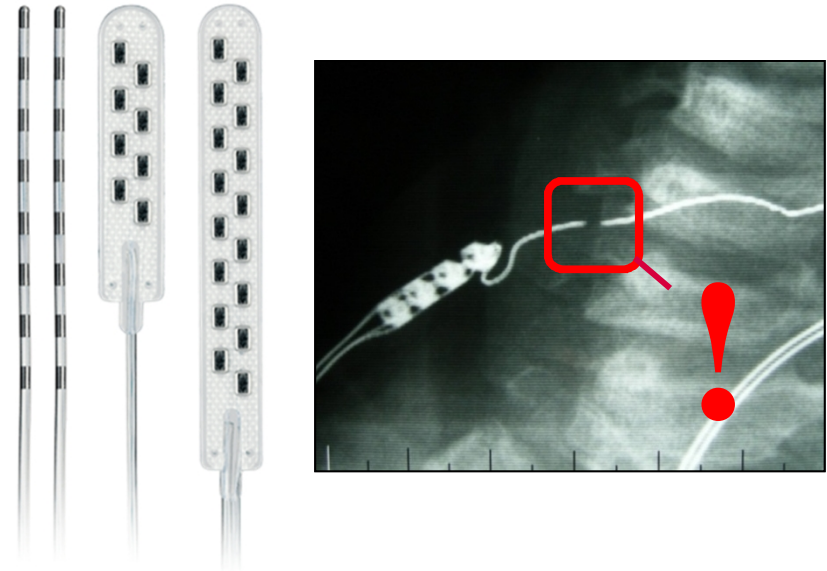
Neuromonitoring Electrodes



- ☐ Bulky
- ☐ Poorly conformable
- ☐ Poorly stretchable
- ☐ Low resolution
- ☐ Hand assembled



Neuromodulation Leads

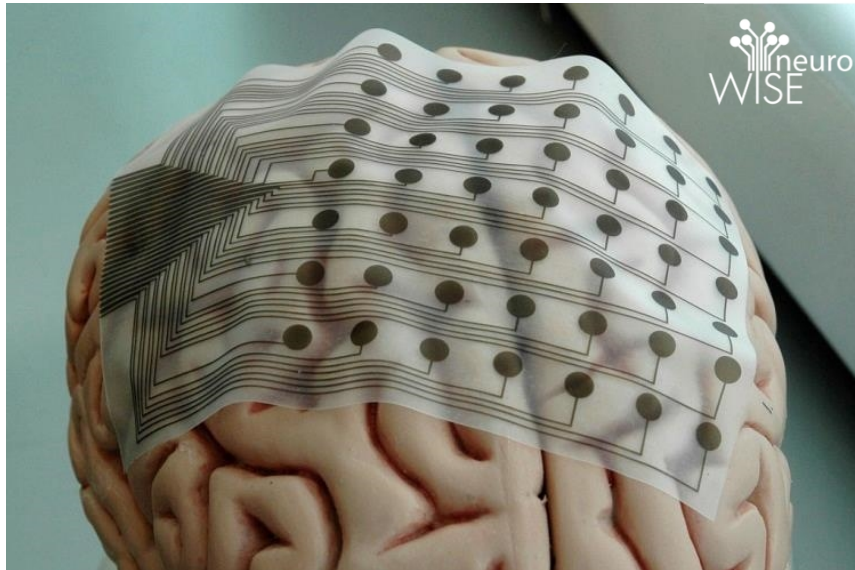


- ☹ **INVASIVE**
- ☹ **MIGRATION**
- ☹ **BREAKAGE**
- ☹ **LIMITED COMPLEXITY**
- ☹ **HIGH PROD. COSTS**

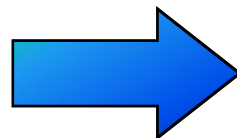
The WISE Solution: Next-generation leads

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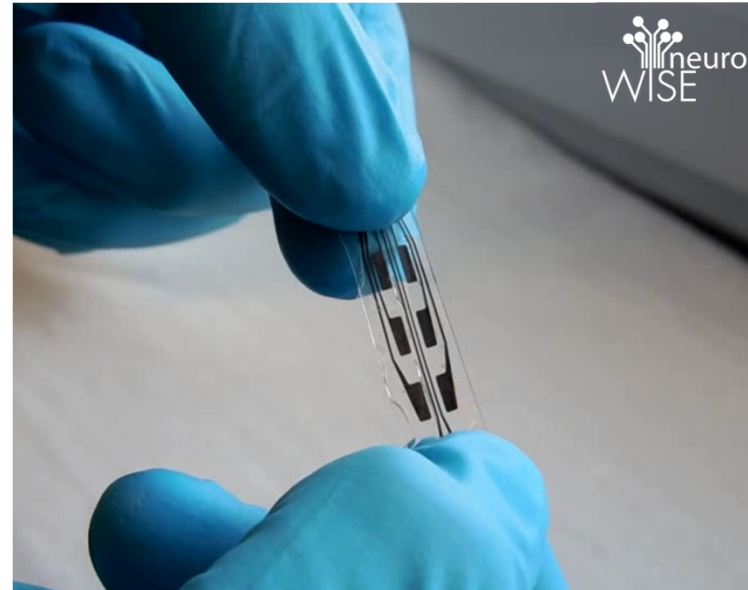
Neuromonitoring Electrodes



- ☐ Arbitrarily thin
- ☐ Highly conformable
- ☐ Highly stretchable
- ☐ High resolution
- ☐ Automation



Neuromodulation Leads

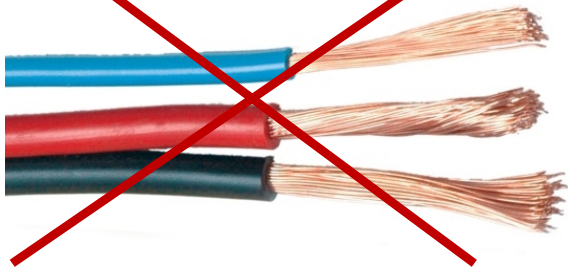


- 😊 **LOW INVASIVITY**
- 😊 **NO MIGRATION**
- 😊 **NO BREAKAGE**
- 😊 **UNLIMITED COMPLEXITY**
- 😊 **LOWER PROD. COSTS**

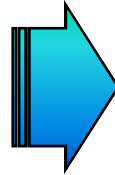
From a rigid past ... to a stretchable future

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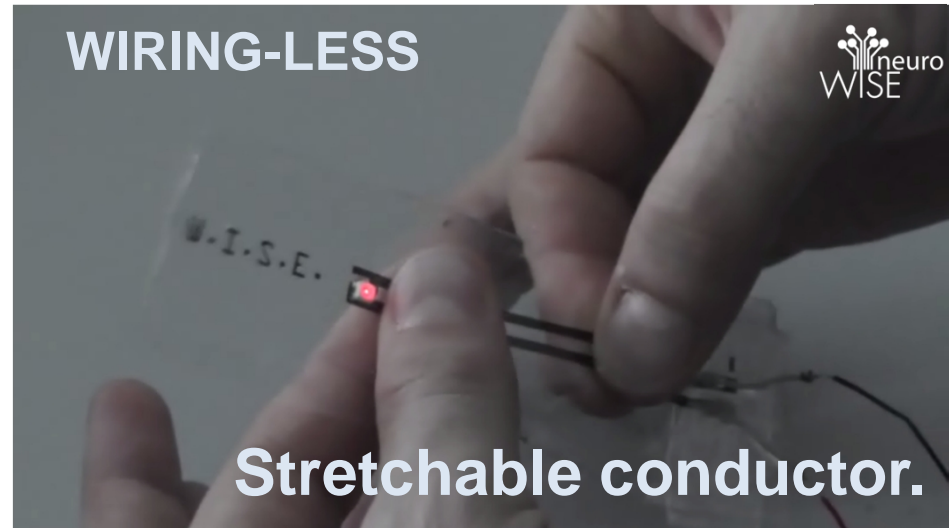
WIRING-BASED



Rigid wires



WIRING-LESS



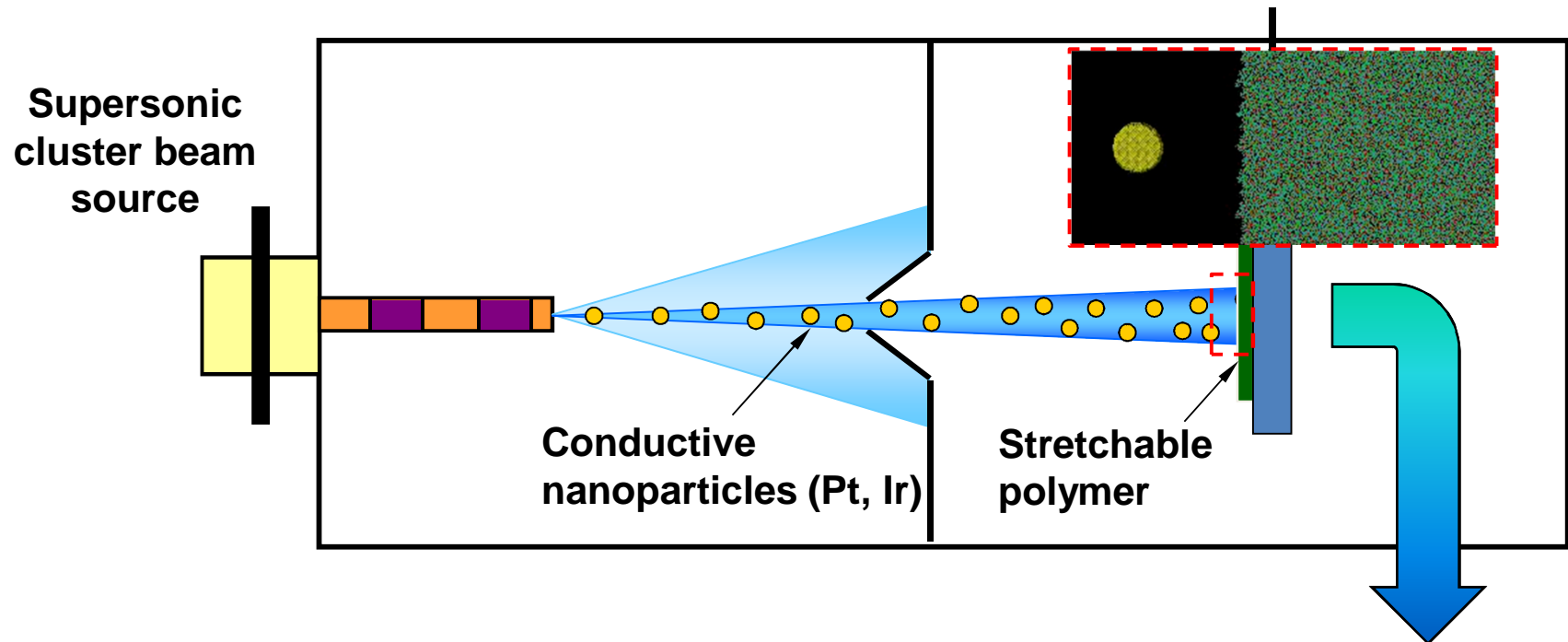
Stretchable conductor.

- ❑ **Stretchable conductive materials.**
- ❑ **Proprietary technology** (PCT/EP2011/054903).

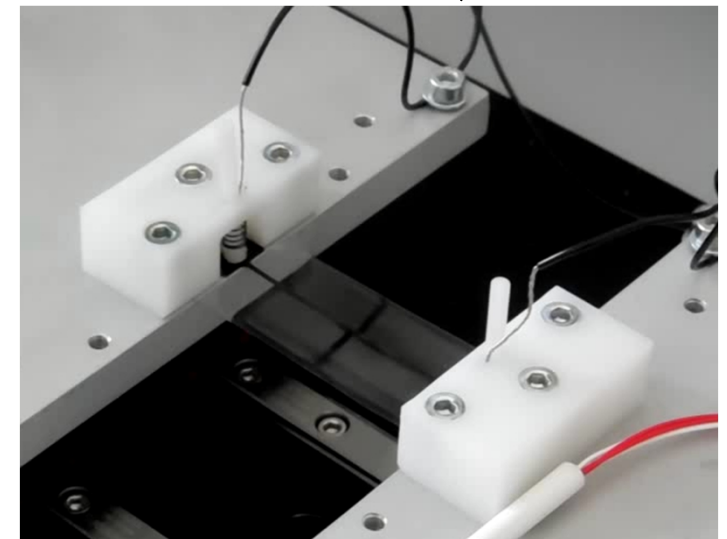


The WISE technology

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- ☺ **Unrivaed stretchability**
- ☺ **Arbitrarily soft & thin substrate**
- ☺ **Biocompatible**
- ☺ **Easy manufacturing**

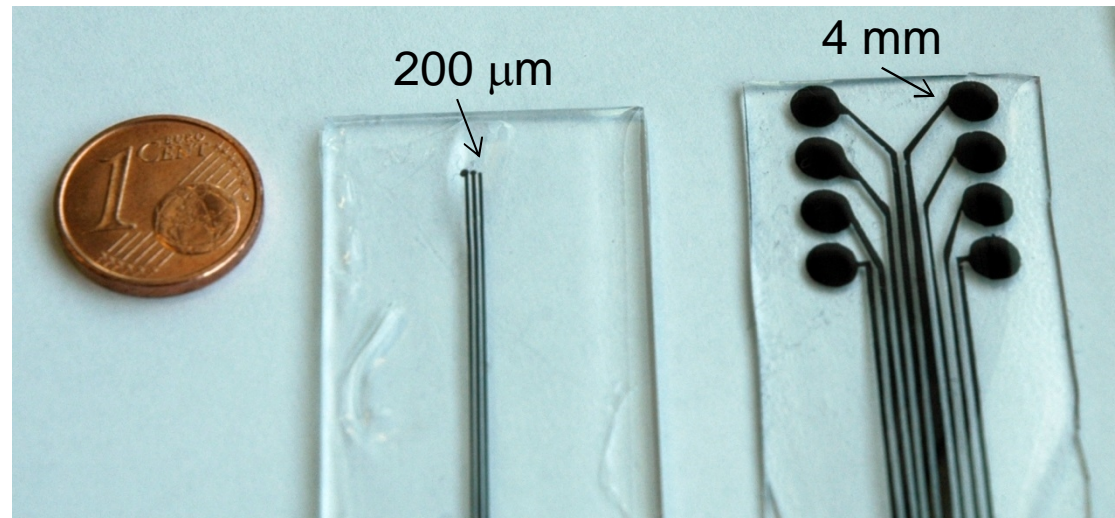


No Engineering Limitations

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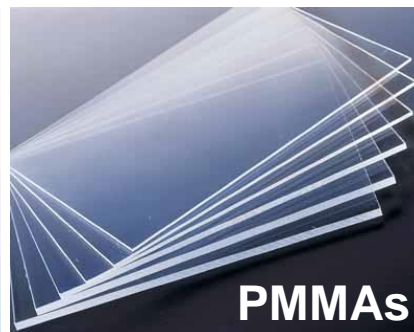
☺ Any shape



☺ Any size (from μm to cm)



Silicones



PMMA's

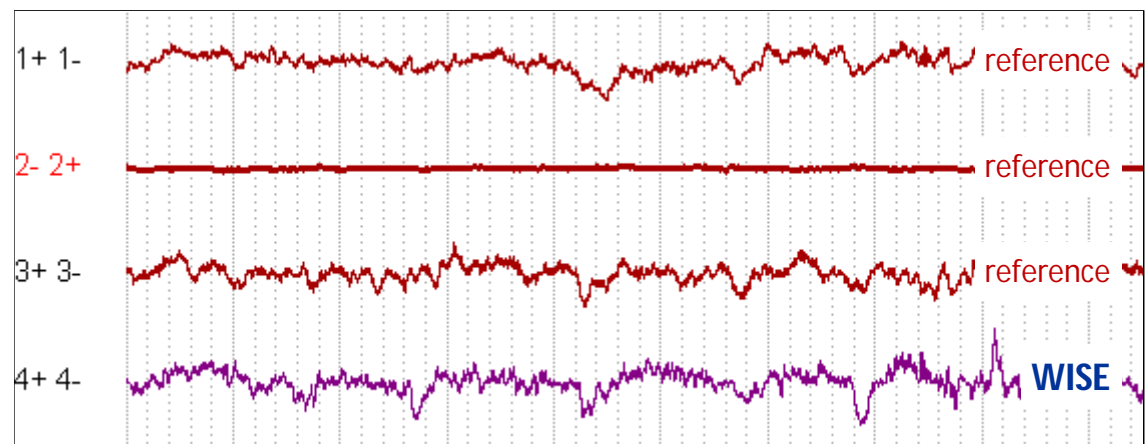
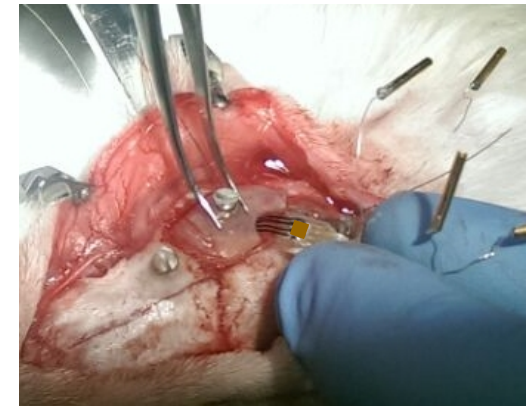
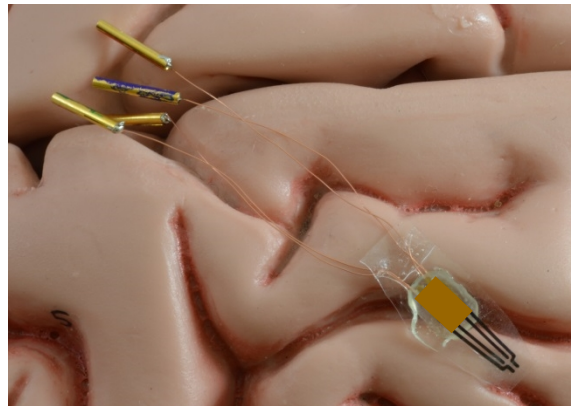


Polyurethanes

☺ Any polymer

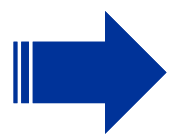
Stable and Effective in-vivo

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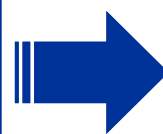


😊 **Stable & very good signal
recording in vivo**

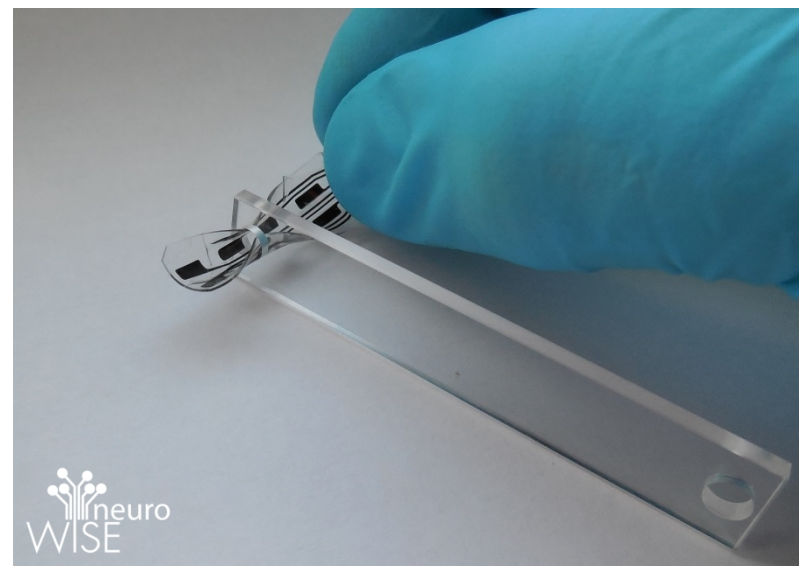
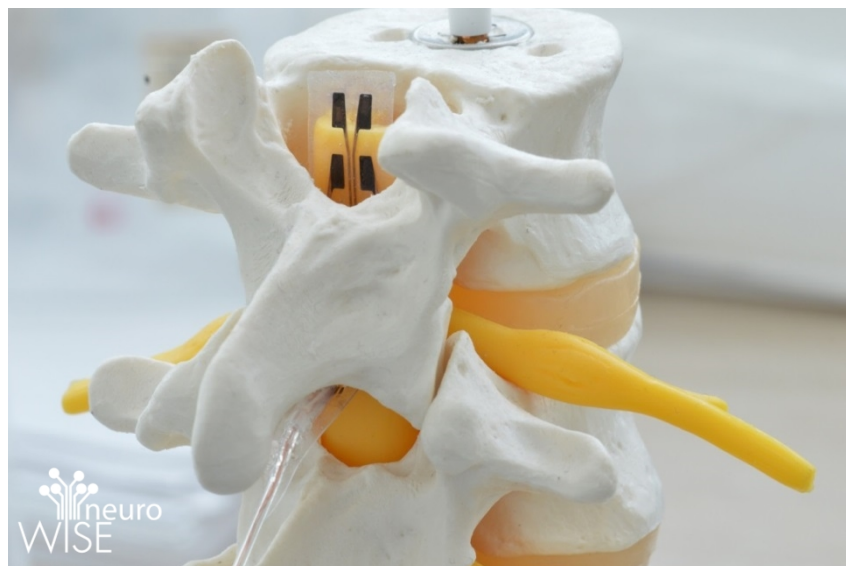
The first “Foldable SCS Paddle lead”



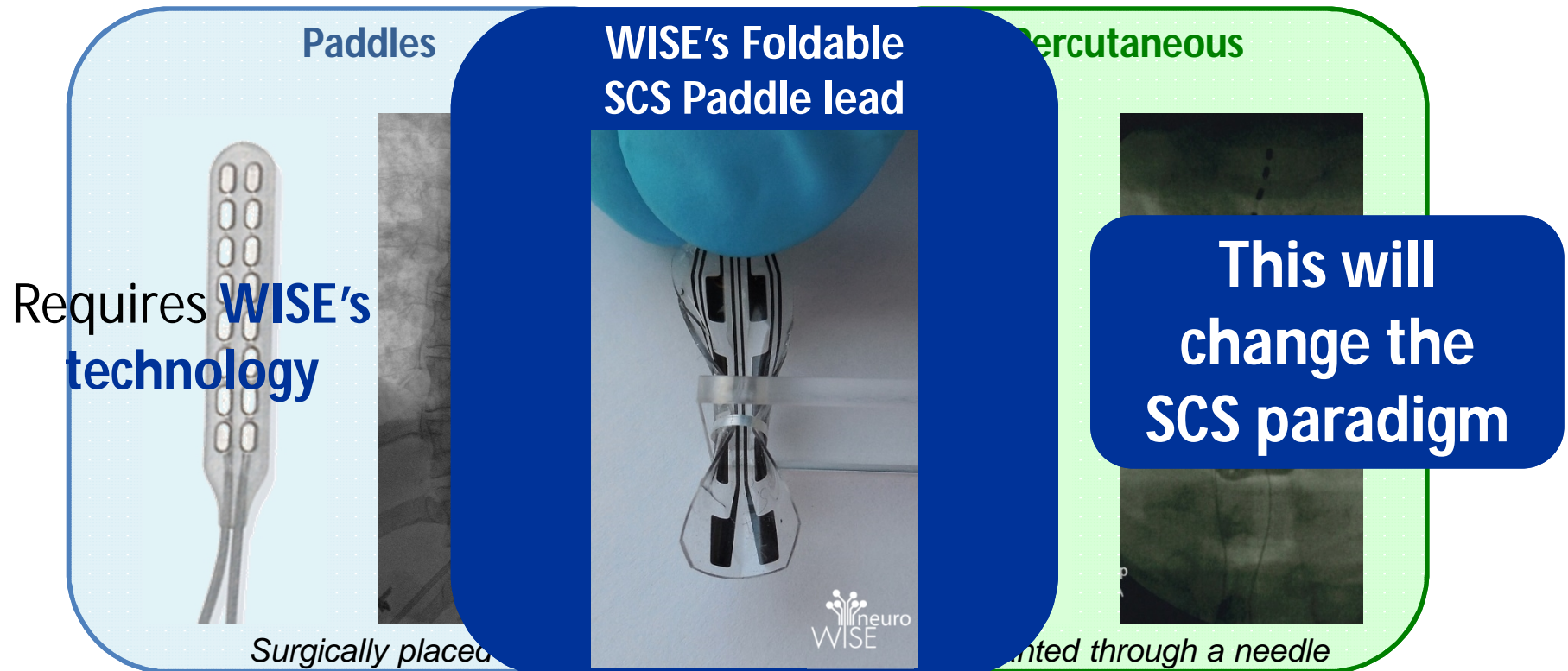
An SCS lead with
all the advantages of a
Paddle lead



implanted by
minimally invasive surgery
as a Percutaneous lead



Two types of Leads are used for SCS:



- 😊 **Better stim.** (directional)
- 😞 **Invasive/Costly** insertion
- 😊 **Precise stim. spot** (grid)
- 😞 **Complex removal**

- 😞 **Worse stim.** (non directional)
- 😊 **Easy/Cheap** insertion
- 😞 **Less Precise stim. spot**
- 😊 **Easier removal**

WISE's Board of Directors

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Luca Ravagnan, Ph.D

Board Member

+12ys in nanotechnology.
Business Development.



Mario Zanone Poma

Board Member

Former Manager in Hoechst, Telepiù,
Mediocredito. President of Agite!



Giulia Salzano

Board Member

+10ys in Grants management,
Admin. & Tech transfer (Master).



Laura Iris Ferro, MBA

Board Member

Former Founder and CEO of Gentium (first
Italian company ever listed at Nasdaq),
Board Member at Sorin.



Mauro Brunelli

Board Member

Venture Partner at Principia Sgr.
25ys experience for M&A and ECM.



Davide Turco

Board Member

Head of Atlante Ventures Fund at Intesa
Sanpaolo.
Venture Capital and Private Equity expert.



Jens Ellrich

Board Member

Professor, Medical Faculty, University of
Erlangen-Nuremberg.
Former Chief Medical Officer at Sapiens.

The WISE Team

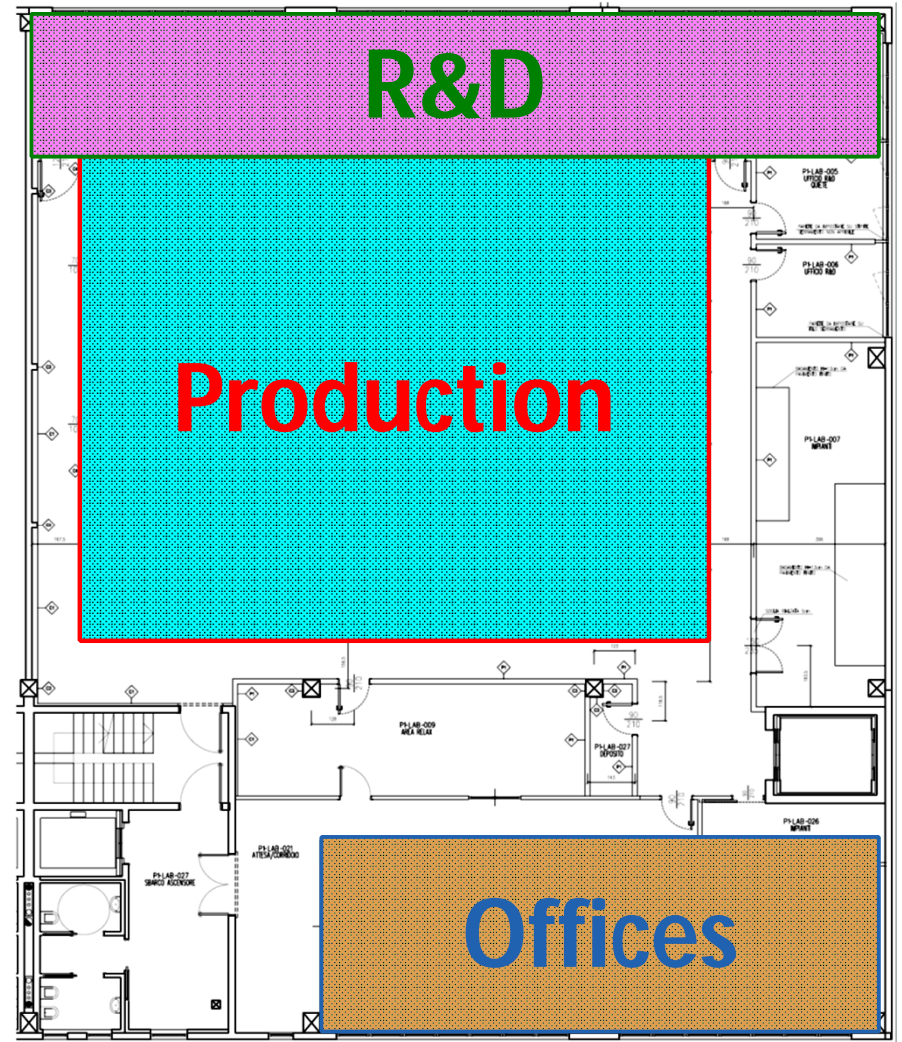
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The WISE Team



www.wiseneuro.com





- 1000 m² facility
- Offices, labs and production
- 120 m² of ISO 7 cleanrooms
- ISO 13485 compliant
- **Operative by July 2016**

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www.wiseneuro.com

Locations:



Milan (Italy) **Fondazione Filarete**

*R&D, Product development &
Administration*



Berlin (Germany) **Campus Berlin-Buch**

Trials & Regulatory

Current Investors:

Agite!  High-Tech Gründerfonds

 **PRINCIPIA SGR**
Capitali per l'innovazione

 ATLANTE SEED  ATLANTE VENTURES

b.to.v
PARTNERS AG
PRIVATE INVESTMENTS

F3F

 **Antares**

Amigdala

Winner of: 13 Innovation Prizes, 2 Business Plan Competitions, 7 Best Presentations Awards.



