



STANFORD UNIVERSITY - SCHOOL OF ENGINEERING
US-ASIA TECHNOLOGY
MANAGEMENT CENTER



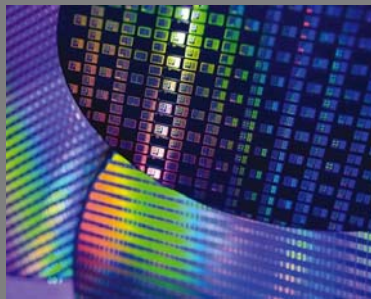
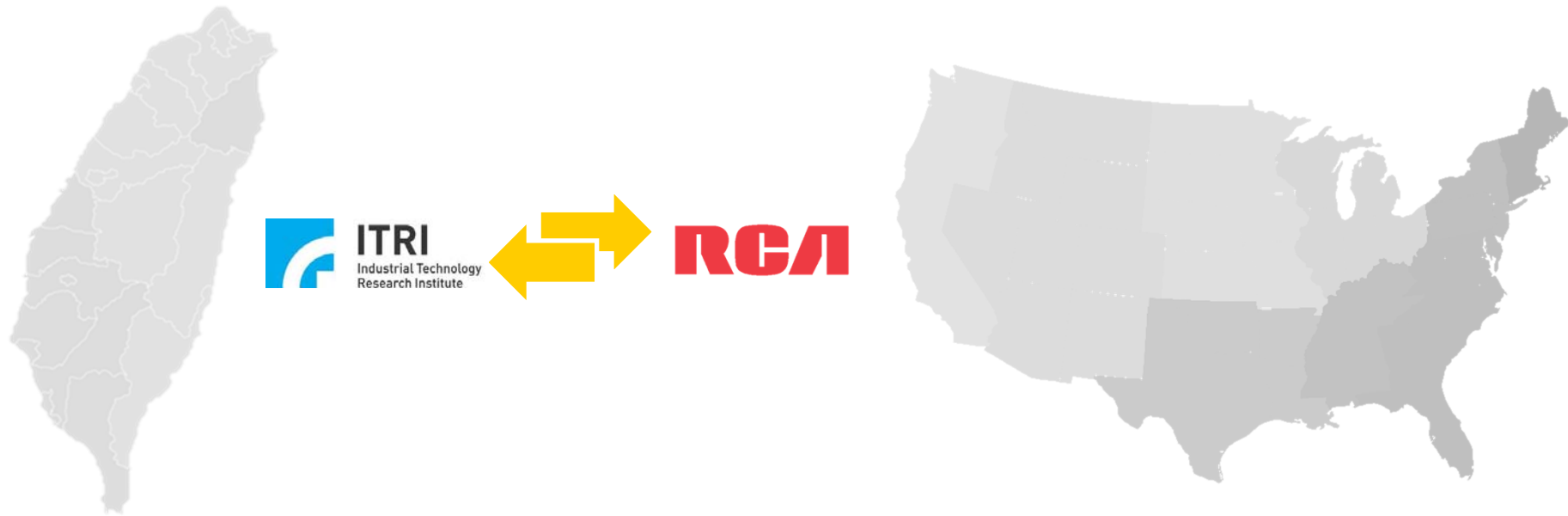
Seminar Series: Entrepreneurship in Asian High-Tech Industries
With support from Sunbridge Partners and Olympus Corporation

BioMed Entrepreneurship in Taiwan: The Stanford Connection



Taiwan-U.S. Cooperation

The RCA experience (1976)



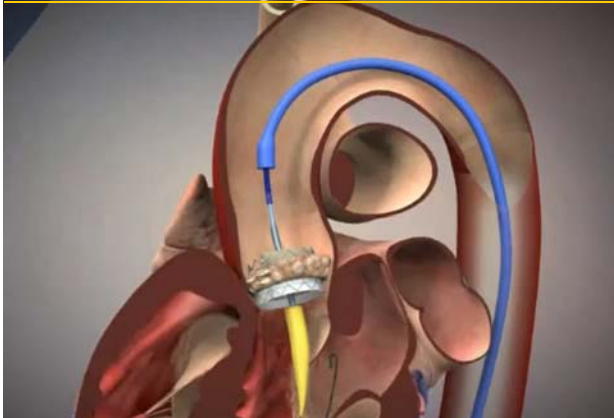
Taiwan-U.S. Cooperation

The STB program



- **Founded in 2008**
- **Mentored by Prof. Peter Fitzgerald and other Stanford faculty**
- **11 engineers and 6 medical doctors have been trained to date**

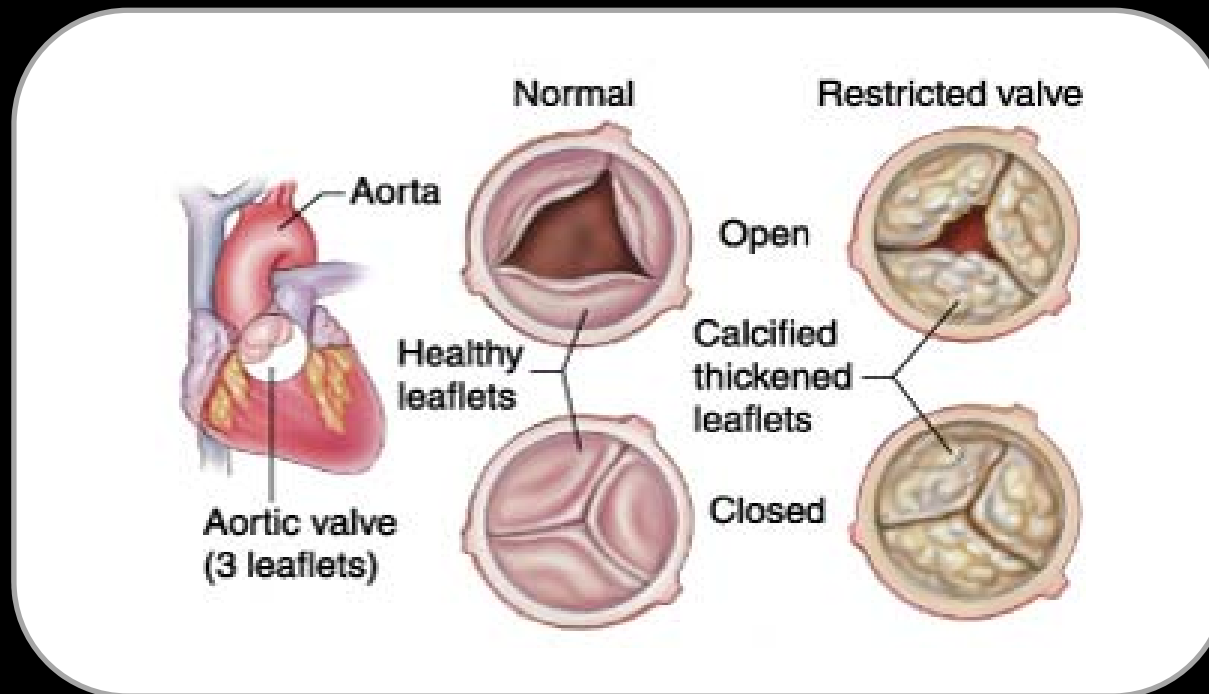




A Better Way to Facilitate Transcatheter Aortic Valve Implantation (TAVI)

Carson Chen

Aortic Stenosis – A Critical Clinical Issue



- Without treatment, **50%** patients die within 1 year
- **180K** patients with aortic stenosis in US and **450k** worldwide

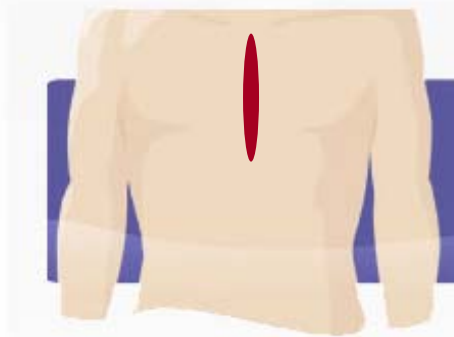
Treatment Options

Medication



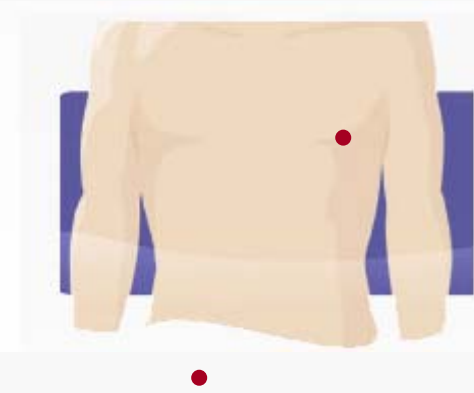
Survival rate:
1-year: **60%**
5-year: **32%**

Surgical Valve Replacement



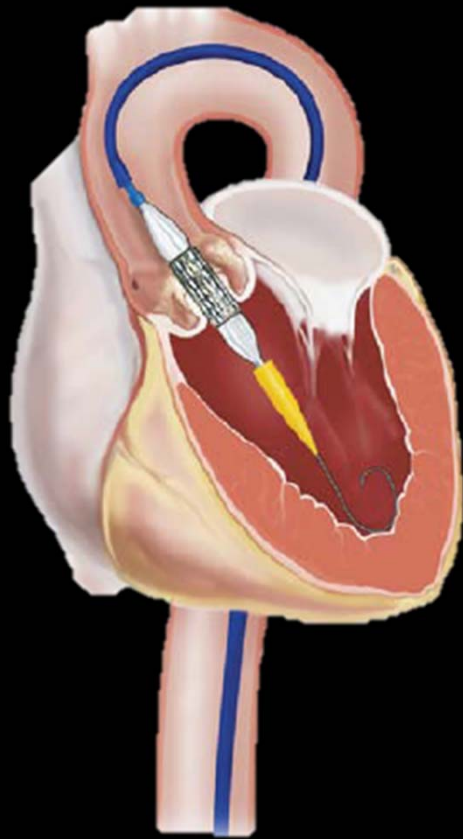
- Only **50%** AS patients are surgical candidates
- Operative mortality: **4-12%**

Transcatheter Valve Replacement

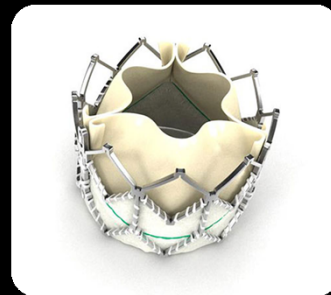


- Intraprocedural mortality: **1.2%**
- 1-year survival: **74%**
- FDA just approved the first valve in Nov., 2011

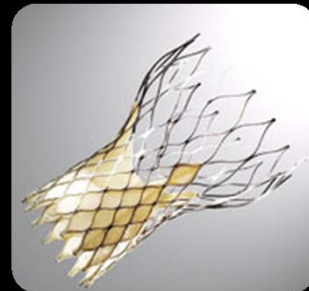
Transcatheter Valve Replacement



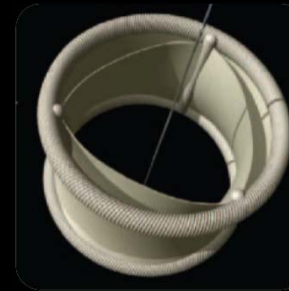
- Currently, Edwards Lifescience and Medtronic contribute to most of the **50,000** valves implanted worldwide
- TAVI market: **\$2 billions** by 2014
- More companies are entering this booming market...



Edwards
Lifescience



Medtronic



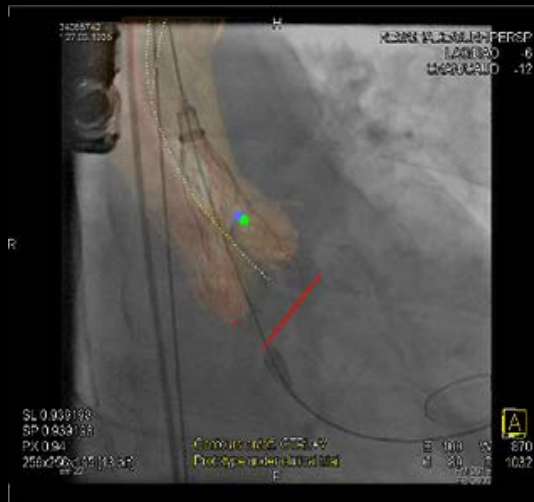
DirectFlow



Lotus

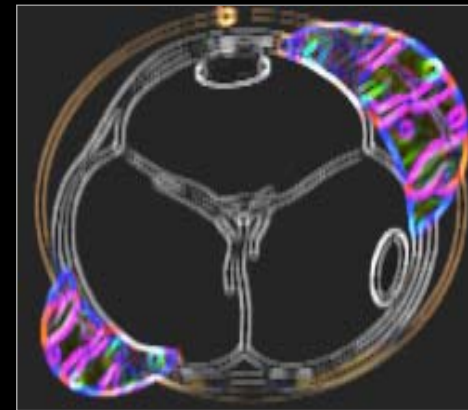
New Challenges in the TAVI Era

Positioning



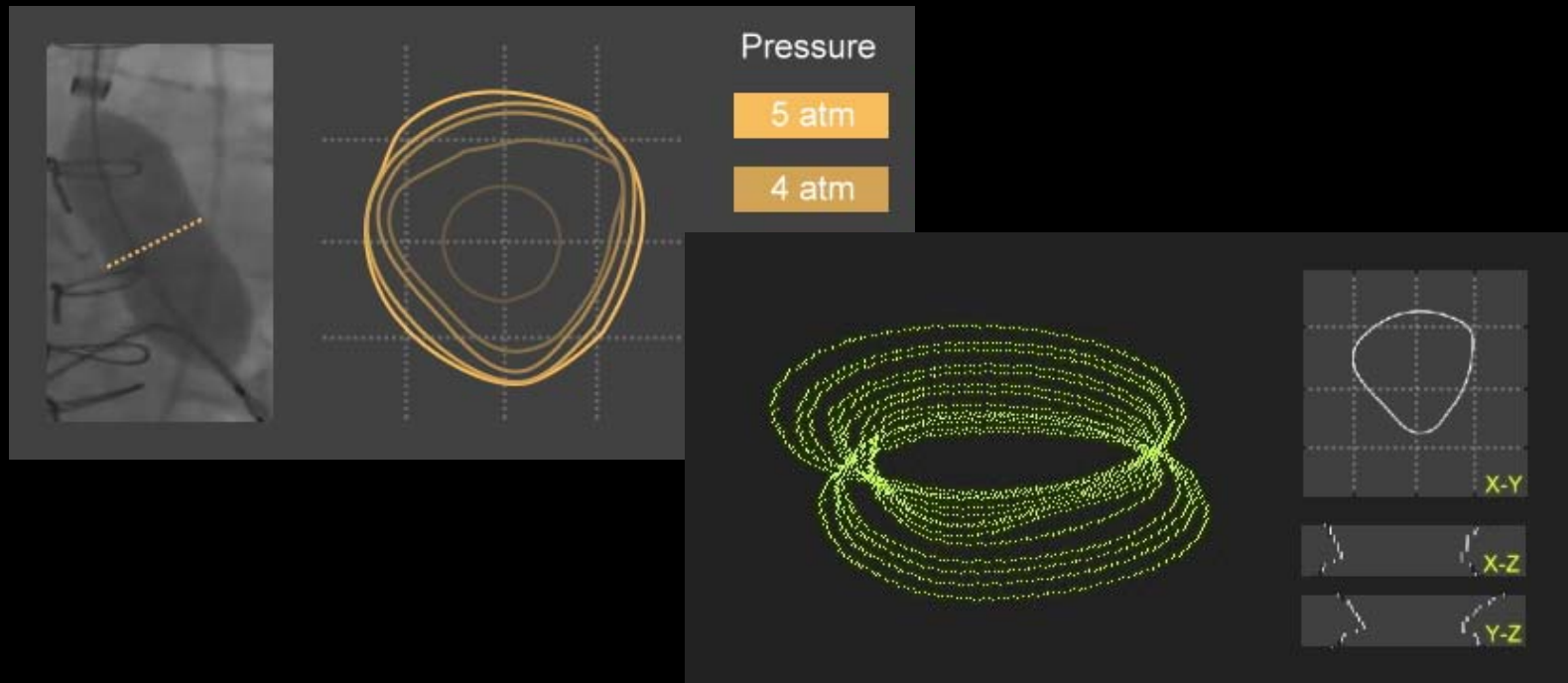
- Up to **25%** of patients need pacemakers after TAVI
- Blocking main arteries could be life-threatening

Aortic Regurgitation (AR)



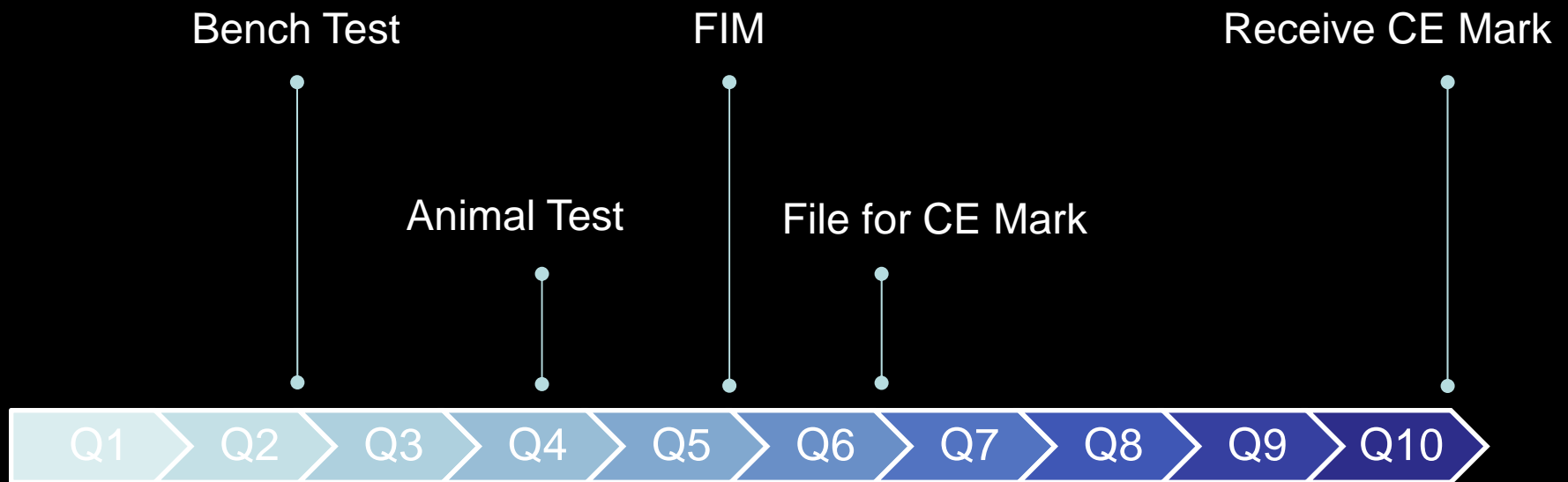
- **21-40%** of TAVI patients have moderate-severe leakage
- Moderate-severe AR leads to **3X Mortality**

Solution for Optimal Deployment



Smart Imaging technology to provide 3D information and guide the procedure

Milestones and Timeline



Si2C



ITRI- RPC



TFDA



NTUH



TMF (\$2B)