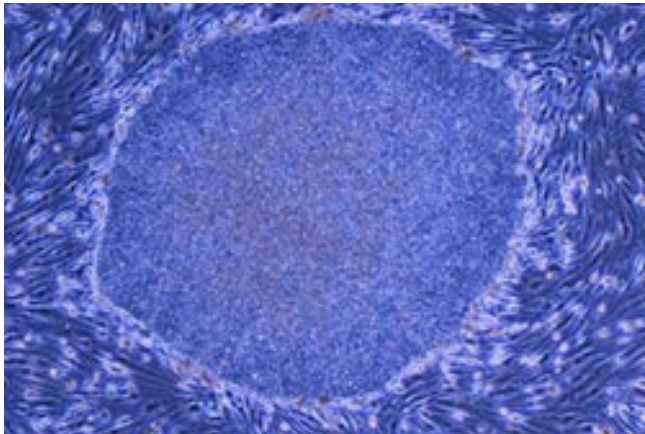


Better Health, Brighter Future



Introduction of Regenerative Medicine Unit and Takeda-CiRA Joint Program

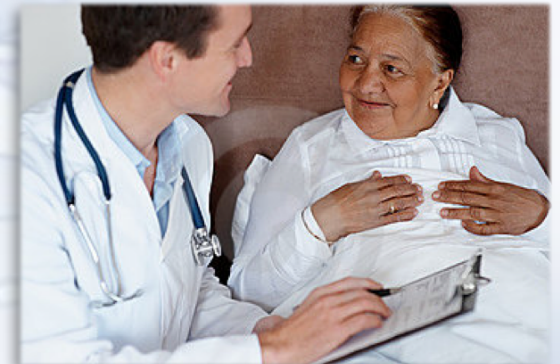
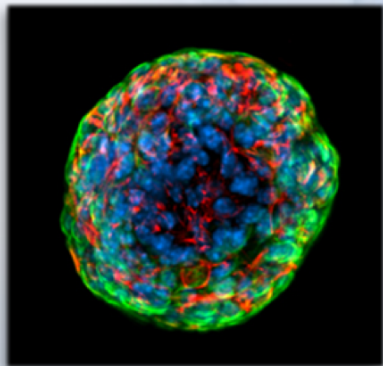
Seigo Izumo, M.D.

Global Head of Regenerative Medicine Unit

Mission of Regenerative Medicine Unit



We aspire to become an industry leader in regenerative medicine by bringing definitive therapies to patients with life threatening disease.



Takeda's External Collaborations in Cell & Gene Therapy



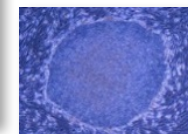
GI

TIGENIX



- Cx601 for complex perianal fistula in Crohn's disease

T-CiRA Joint Program



- Kyoto University
- Yokohama City University
- Riken

Oncology



- Novel T cell platform for a broad range of cancers



- Yamaguchi University
- National Cancer Center

Sanford Consortium



- Salk Institute for Biological Studies
- UC San Diego

CNS



- Keio University

In 2015, Takeda and Center for iPS Cell Research and Application (CiRA) at Kyoto University agreed to start a ten-year-long research collaboration (T-CiRA Joint Program)

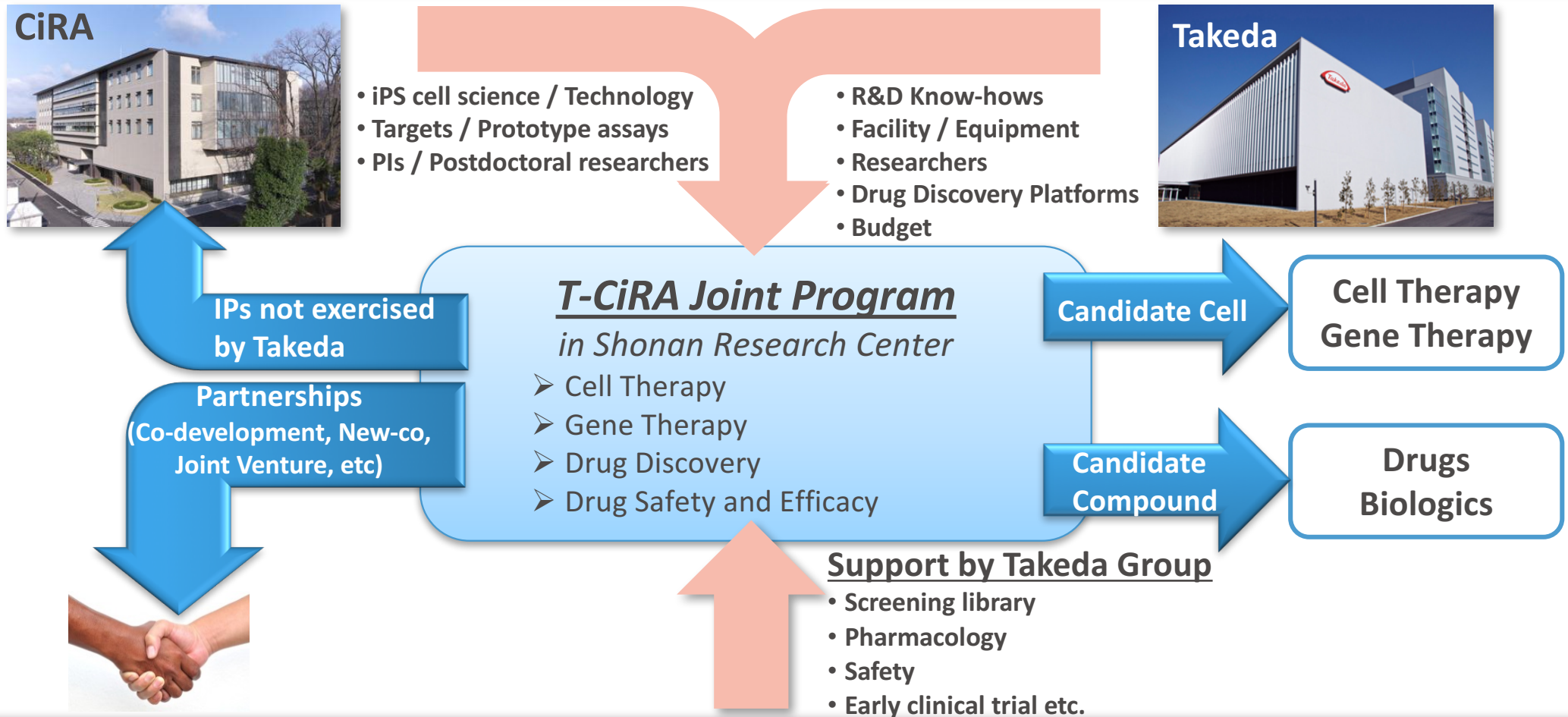


Takeda-CiRA Joint Program: ***Unique academia-industry collaboration***



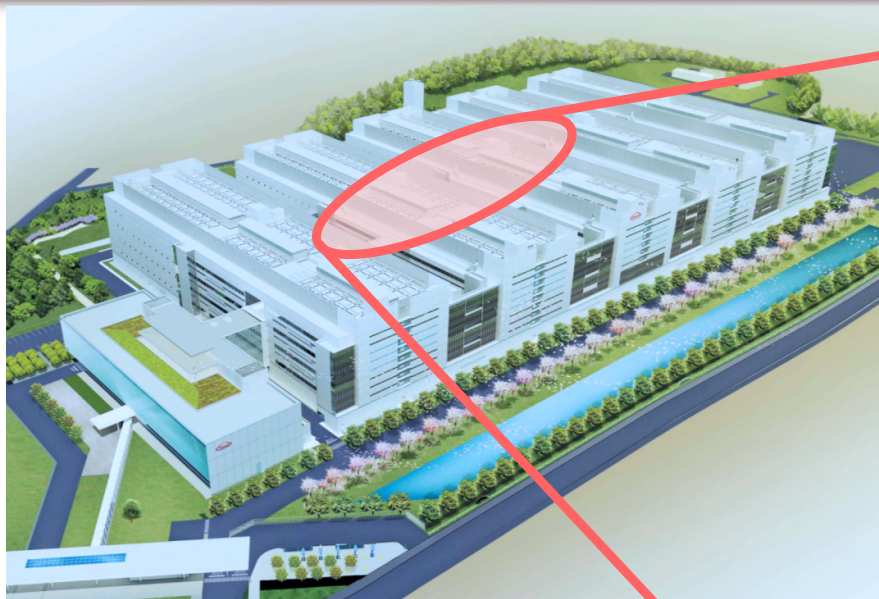
1. Long term (10 years) commitment by both CiRA and Takeda
2. Over 100 researchers at one site.
3. Aim: To deliver cell therapies and drug discovery using human iPS cells
4. "Reverse" academia-industry collaboration in the center of a drug company's research facility.
5. Co-ownership of Intellectual Properties (50:50)

The Framework of T-CiRA Collaboration and Clinical Candidate Development



T-CiRA Collaboration

-Dedicated Space in Shonan Research Center-



T-CiRA Program

- Located in Fujisawa, Japan
- Approximately 7,500m² total floor area
- More than 100 scientists from academia and Takeda
- All projects use iPSC technologies
- Considered as a branch of CiRA by Kyoto University

Principal Investigators in T-CiRA Program

Cell Therapy Group



Taro Toyoda
(CiRA, Kyoto Univ.)
- Type 1 diabetes



Yoshinori Yoshida
(CiRA, Kyoto Univ.)
- Heart failure



Shin Kaneko
(CiRA, Kyoto Univ.)
- T-cell therapy for cancer
- Immune tolerance for organ transplantation

Drug Discovery Group



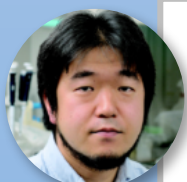
Haruhisa Inoue
(CiRA, Kyoto Univ.)
- Amyotrophic Lateral Sclerosis (ALS)



Yoshinori Yoshida
(CiRA, Kyoto Univ.)
- Cardiomyopathy



Hidetoshi Sakurai
(CiRA, Kyoto Univ.)
- Intractable muscular disease



Tadashi Suzuki
(RIKEN)
- Drug discovery for *NGLY1* deficiency

Platform Technology



Makoto Ikeya
(CiRA, Kyoto Univ.)
- A new research platform with neural crest cells



Takanori Takebe
(Yokohama City Univ.)
- Organoid technology

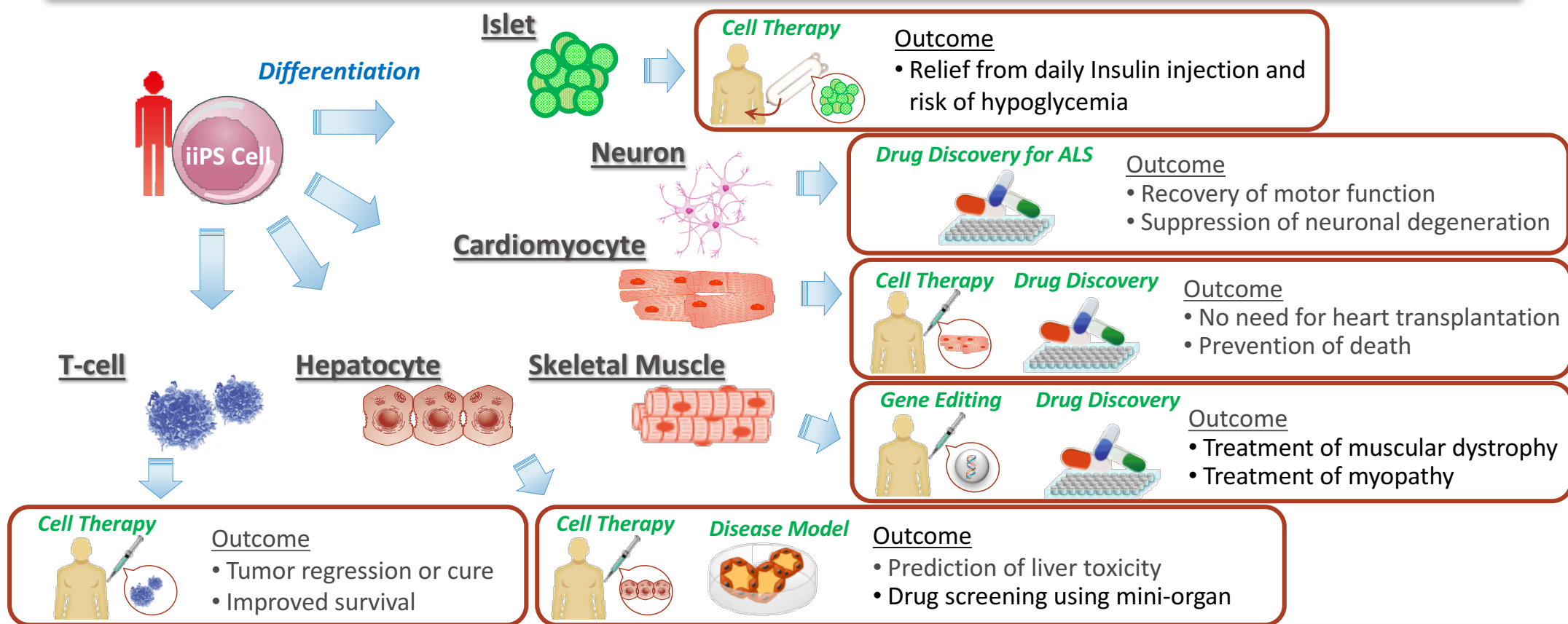


Akitsu Hotta
(CiRA, Kyoto Univ.)
- Genome editing therapy for Duchenne muscular dystrophy

Game-Changing Therapeutics to be Delivered from the T-CiRA Program



T-CiRA aims to enter clinical trials within 3-4 years and submit approval applications within 9 years.



Transformation of Shonan Research Center into an Open Innovation Hub



2017.3

Shonan Research Center

CNS Research

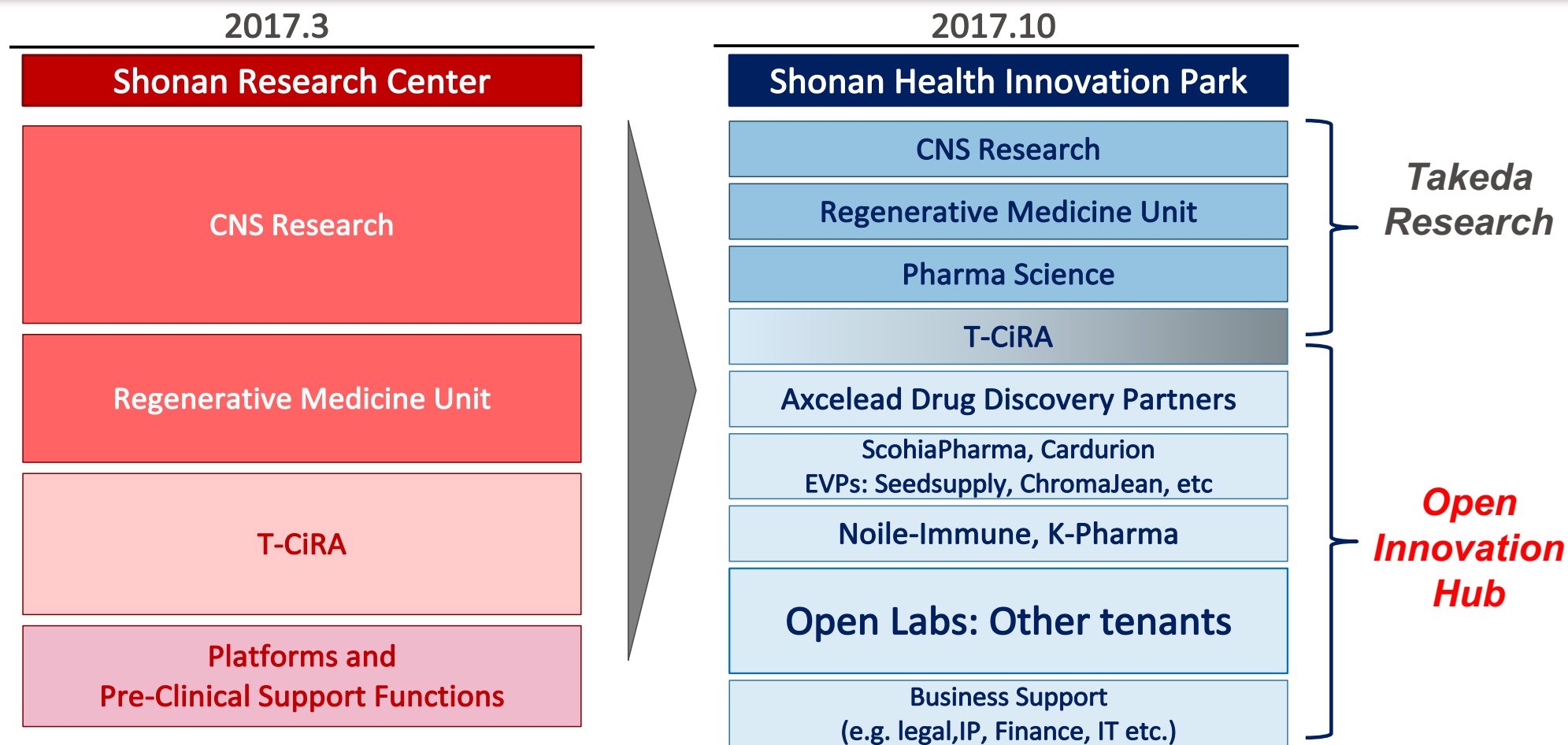
Regenerative Medicine Unit

T-CiRA

Platforms and
Pre-Clinical Support Functions



Transformation of Shonan Research Center into an Open Innovation Hub



T-CiRA: A New Form of Academia-Industry Collaboration at Shonan Health Innovation Park



URL:<https://www.takeda.com/t-cira/>



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