



# Gene Techno Science Co., Ltd.

Announcement of Share Acquisition of  
Japan Regenerative Medicine Co., Ltd.

February 2020

# Outline of Japan Regenerative Medicine (“JRM”)

Name	Japan Regenerative Medicine Co., LTD .	
Established	October 16, 2013	
Main Business	Research and development of regenerative medicine and cell therapy	
Location	Head quarter	2-5-5, Shibadaimon, Minato-ku, Tokyo
Board member	President and CEO	Ryo Noguchi
	Board director	Masaharu Tani (Assigned from GTS)
	Board director	Masayuki Kawakami (Assigned from GTS)
	Auditor	Osamu Sugawara (Assigned from GTS)



## Main Business and strategy for growth

As of Feb 17, 2020

### Fundamental technology

- Exclusive licensing agreement with Kyoto University for the patent on fundamental technology of cardiac stem cells
- Technology transfer from Okayama University and developing JRM-001 for pediatric congenital heart disease

### Mission

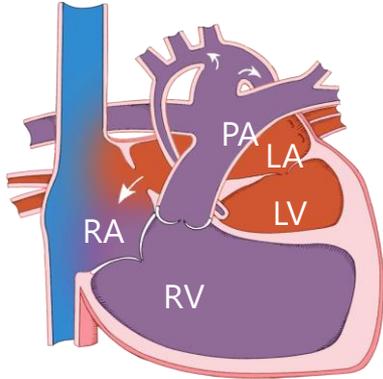
- Aim to realize the world's first regenerative medicine and other products for pediatric congenital heart diseases that cannot be treated with conventional drugs and medical devices.

### Strategy for growth

- Establishment of the stem cell bank and development of allogeneic cell therapy
- Wide application to various cardiac diseases where desired
- Overseas deployment

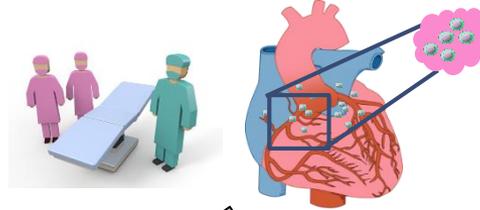
# Cell Therapy by Cardiac Stem Cells (CSCs)

## Functional single ventricular Hypoplastic Left Heart Syndrome (HLHS)



Surgery is the standard treatment, but the prognosis often results in cardiac hypofunction and cardiac failure

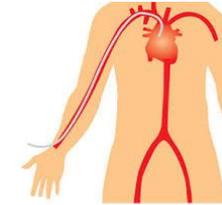
1. Collection of a small amount of heart tissue during surgery



2. Isolation and culture of CSCs



3. Catheter administration of CSCs through coronary artery



4. Recovery of cardiac functions



### Cardiac Stem Cells (CSCs)

- Less tumorigenicity and **higher safety**
- In addition to the ability to differentiate into various cell types, CSCs have the capability to **secrete several factors which contribute to the recovery of cardiac functions**

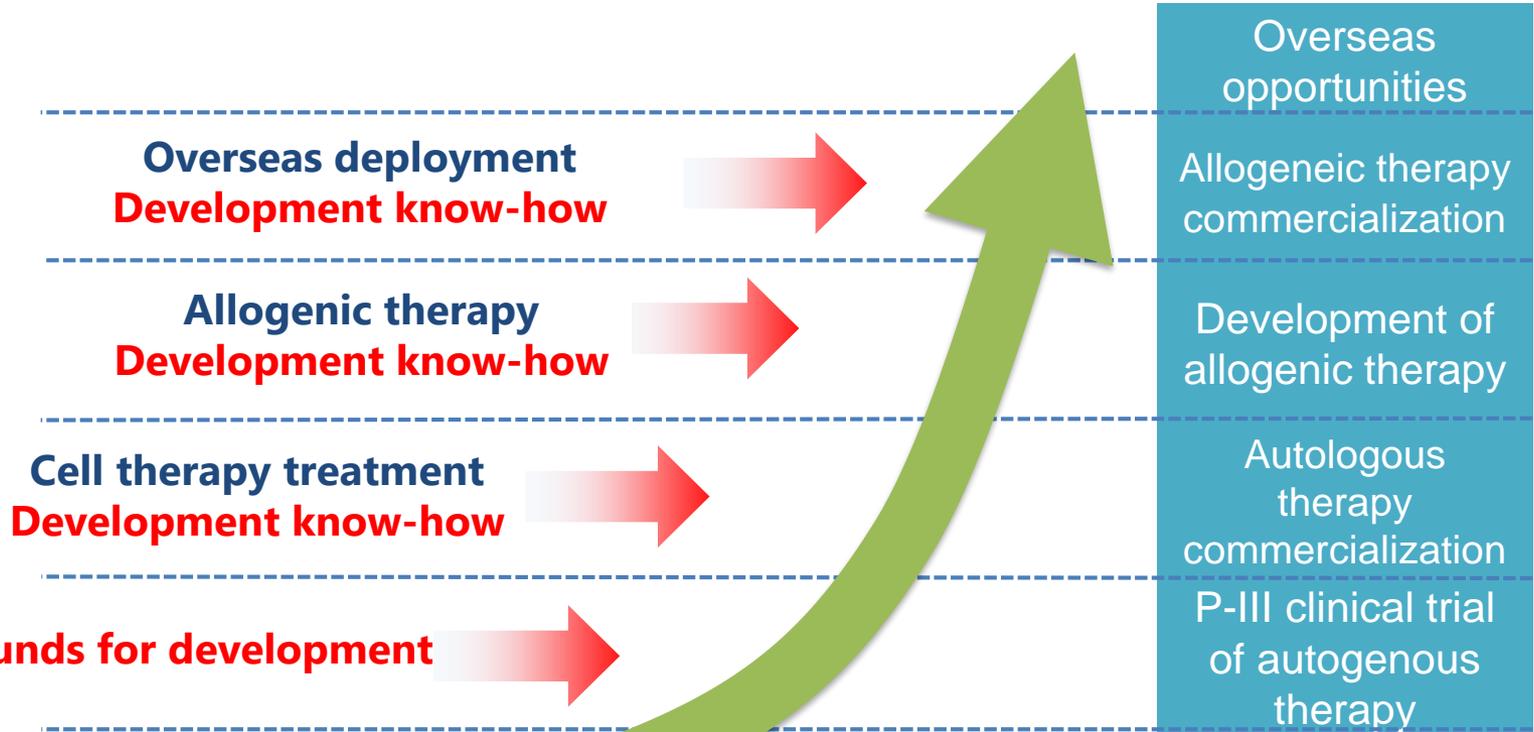
### Pediatric congenital heart disease (functional single ventricular)

- 400 to 500 cases in Japan per year
- Hypoplastic left heart syndrome (HLHS) is known as a typical **functional single ventricular disease**.

### JRM-001

- Aims at improving **cardiac functions on post-surgery**.
- Currently conducting a **confirmatory clinical trial**
- A product of granted **“SAKIGAKE” fast-track designation system**

# Purpose of this acquisition- JRM



**JRM**

Additional financial resources and know-how from GTS enable more comprehensive and aggressive promotion of cardiac stem cell therapy development

## Expected synergies

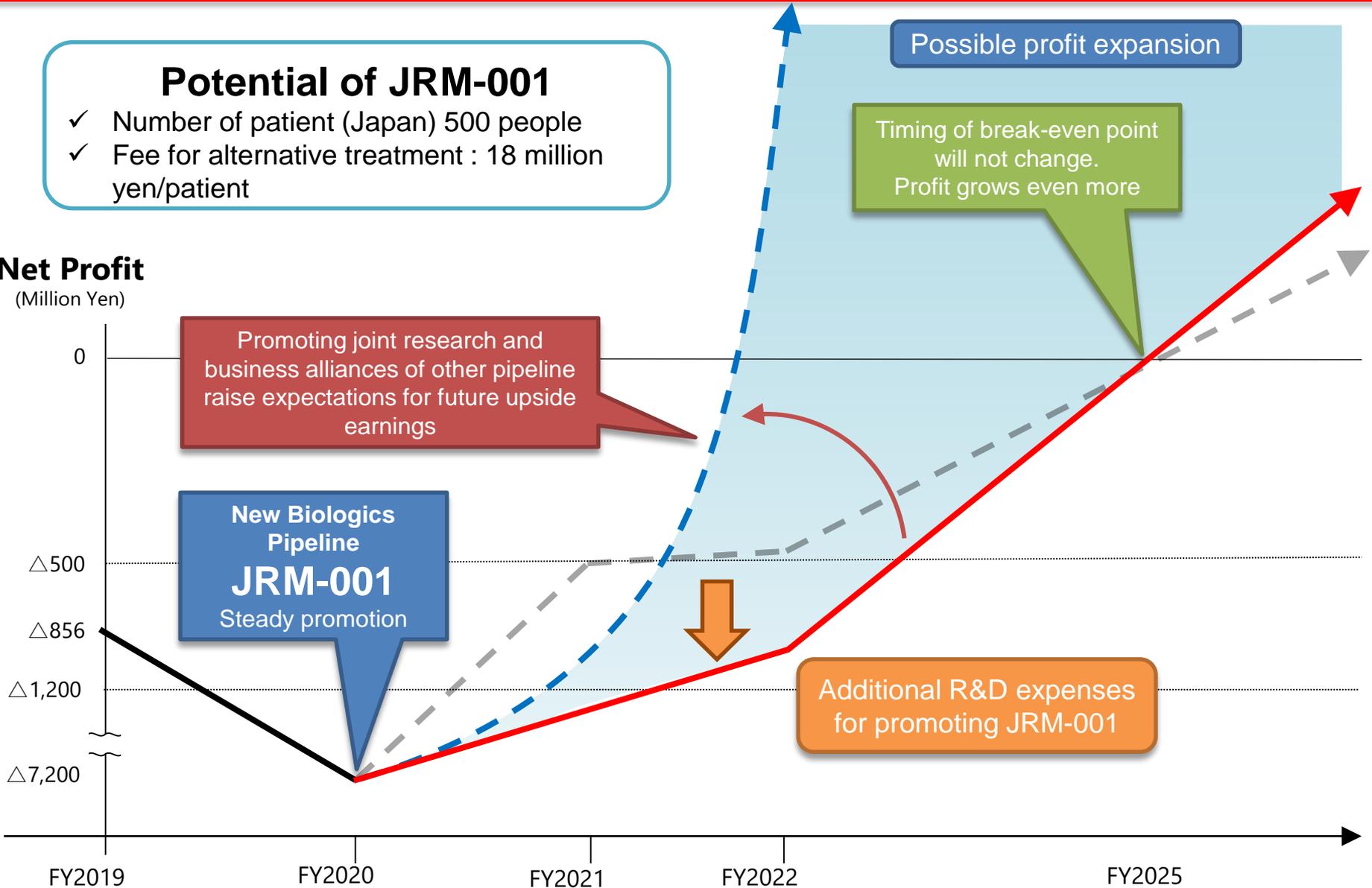
- Acceleration of development
- More certainty in product launch
- Increases in future profitability

# New Roadmap in GTS3.0 with JRM

## Potential of JRM-001

- ✓ Number of patient (Japan) 500 people
- ✓ Fee for alternative treatment : 18 million yen/patient

### Net Profit (Million Yen)



# GTS3.0 Business Portfolio

## Incorporation into GTS Pipeline

Cell Therapy

### SHED

Showa Univ  
Bone-related

ORTHOREBIRTH  
Cleft-lip/cleft-palate

Gifu Pharmaceutical  
Univ.  
Ophthalmology

Joint research with  
3 institutes  
Cerebral palsy

NEW

### CSC

JRM-001 <sup>NEW</sup>  
Cardiac disease/Pediatric  
disease  
Hypoplastic left heart  
syndrome

### Business Alliance

Showa Univ.

SPI

Eil

Dojin

SOLA

chromo-  
center

GPC

Antibody drug

### Biosimilar

GBS-001  
Cancer

GBS-007  
Ophthalmology

GBS-011  
Renal

GBS-004  
Cancer

GBS-008  
Infectious  
disease

Kishi Kasei  
GBS-012  
Ophthalmology

GBS-005  
Immunological  
disease

GBS-010  
Cancer

NEW

### New Biologics/Manufacturing

GND-001  
Cancer

Sapporo Medical  
Univ.  
Cancer

GND-004  
Ophthalmology

MabGenesis  
Cancer

GND-007  
Immunological  
disease

NEW

NEW

# **Gene Techno Science**



***Biotech Engineering Company,  
striving for value creation***