

# Addressing key bottlenecks in global medical device development: Challenges and strategic solutions

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I disclose the following type of financial relationship

- Affiliation/Financial Relationship : Employee

- Company : Terumo Corporation

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#### What is Global Medical Device Development?

 In this case, the process is divided into five phases from ideation to product launch

Product working

global market,

infringement

risk, and patent

in real

Analyses of

## **Feasibility**

- PoC Starting
- Prototype
- Data collection plan Dossier preparation
- (DHF)
- QMS

#### Design **Development**

- production
- Design history file

#### Regulatory approval

Verification

**Validation** 

Clinical study

Completion of PoC,

DHF under the

certified QMS

execution

- Application to target countries
- Reviewed by authorities
- GMP inspection

#### **Initiation**

- Needs/seeds
- In-house/Outsource
- Open innovation

### **Key Bottlenecks in Global Medical Device Development**

**Technical** and

engineering challenges

Key bottlenecks because of "GLOBAL" are mentioned here in red

**Concepts could be acceptable** in different countries

**Feasibility** 

 Product working in real

Needs/

**Initiation** 

- In-hou
- Open i

**Consider to obtain the greatest** common factor which can cover all different regulations

Design **Development** 

- PoC Starting
- Prototype production
- Data collection plan Dossier preparation
- Design history file (DHF)
- QMS

International clinical study execution needs be considered

#### Verification **Validation**

- Clinical study execution
- Completion of PoC, DHF under the certified QMS

Regulatory approval

- Application to target countries
- Reviewed by authorities
- GMP inspection

**Reviewed by** different authorities

Compliant with regulations, standards, guidance in each country

#### **Key Bottleneck Solutions**

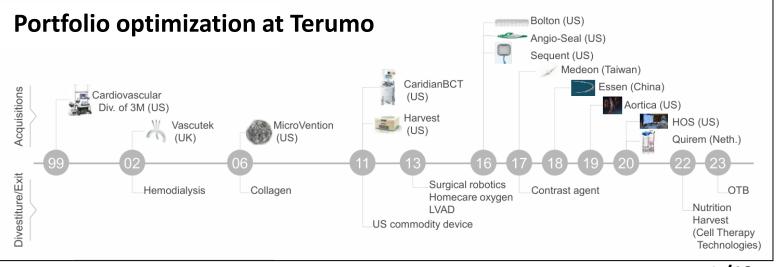
- Any key bottlenecks regarding technical and engineering challenges could be solved by collaboration among physicians, engineers, and scientists with their individual specialties in medical expertise, engineering design, and scientific research along with state-of-the-art technologies such as generative AI
- In the case of global medical device development, it is vital to have a deep understanding of regulatory frameworks of individual countries as global harmonization is still underway

#### IN ADDITION THESE,

 A global business strategy can also be one of the essential solutions for achieving key goals, obtaining worldwide regulatory approvals, distributing products globally, and finally expanding our business which is our biggest target as a global medical device company

#### **Strategic Solutions to Achieving Global Business Success**

- Optimization of the business portfolio through not only acquisitions but also divestitures or exits
- Strengthening in-house development capabilities in core technological fields, such as surface modification, coating, in-vivo/in-vitro evaluation, precision, uniform molding, etc.
- Investment in startup companies, which could be considered one of the R&D activities
- Creating synergies through venture investments and inhouse development



#### Recent Efforts to Strengthen Terumo's Business

- Acquired OrganOx Limited, a leading innovator in organ preservation devices, marking strategic entry into the organ transplantation-related sector (Aug 25<sup>th</sup>, 2025)
- Signed a distribution agreement with MedHub-AI to market the "Autocath FFR™", MedHub-AI's SaMD, in Japan (Jun 17<sup>th</sup>, 2025)
- Entered into agreement between Terumo and WuXi Biologics on a Drug Product Plant in Leverkusen, Germany, to accelerate CDMO business globally (May 14<sup>th</sup>, 2025)





#### Opened new R&D center in the U.S.

- Established "D-TECT" (Discovery and TEchnology Center of Terumo), a new R&D center in the United States on April 1<sup>st</sup>, 2025. Strategically located in Aliso Viejo, CA
- D-TECT will facilitate collaboration with local medical institutions, academia and startups to reinforce Terumo's global Corporate R&D capabilities
- Supports R&D functions of the Terumo Group companies across the country by utilizing its own core technology



### **Established Corporate Venture Capital "Terumo Ventures"**

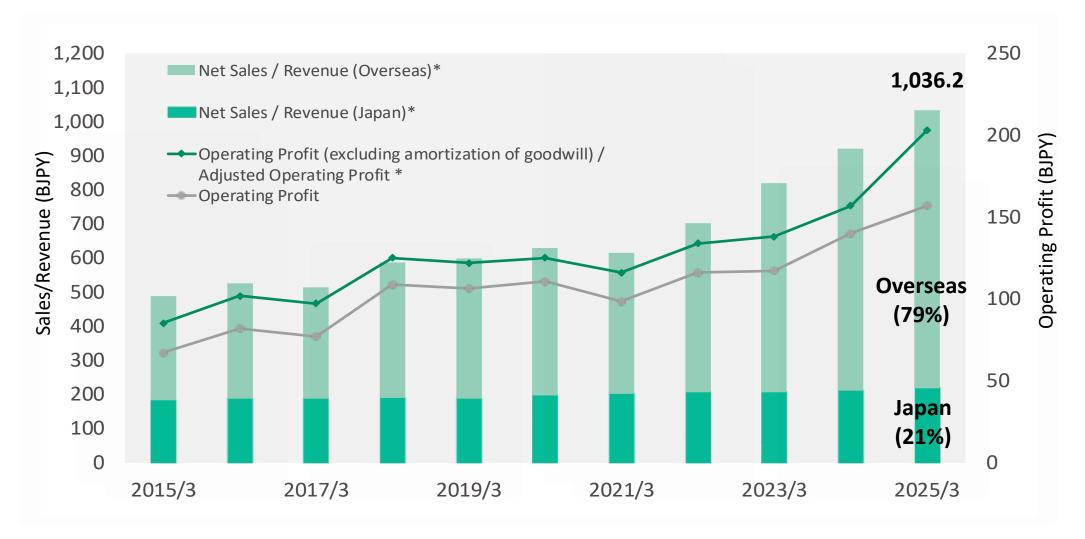
- Responsible for leading the Group's venture investments, as a department within Terumo Americas Holding, Inc. on Aug. 1<sup>st</sup>, 2024
- Plan to invests US\$ 75 million over the next five years in early-stage companies
- Continue to enhance its ability to create innovation through a combination of internal development and partnerships with external parties to further expand the value it provides to society

Venture Investments through VC Funds and other Channels

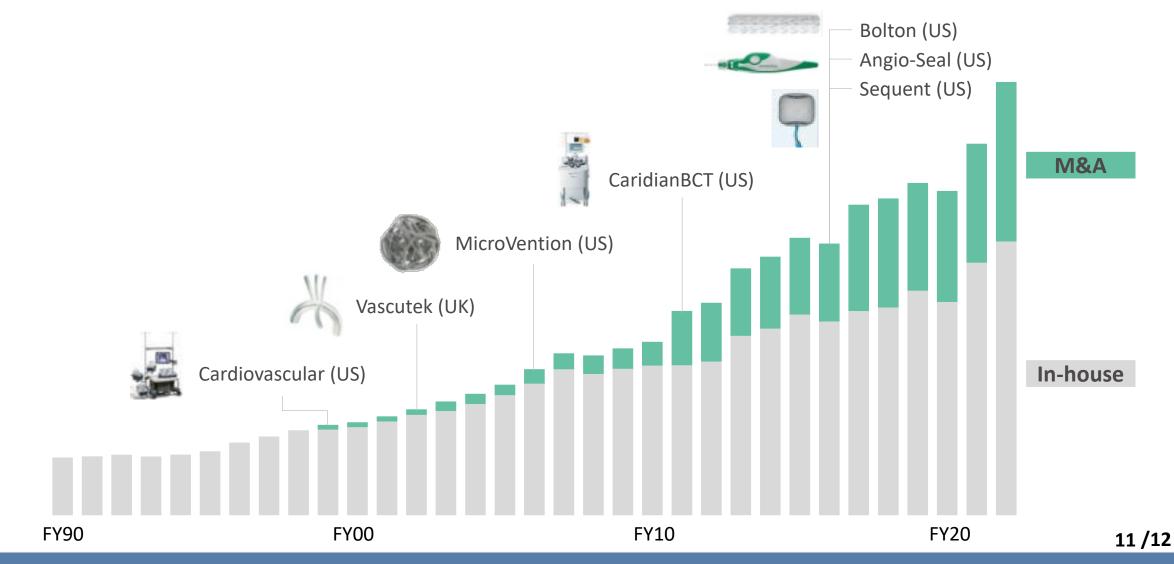


Dynamic Venture Investments Driven by Ownership

### **Continuing to Achieve Sustainable and Profitable Growth**



### **Business Contribution through In-house Development and M&A**



#### **Take Home Message**

- During the development process, any key bottlenecks, such as technical and engineering challenges, could be solved by collaboration among physicians, engineers, and scientists with their individual specialties and state-of-the-art technologies in medical expertise, engineering design, and scientific research, respectively
- Global business strategy is also one of the key solutions to achieve the goals not only getting regulatory approval and distributing our products worldwide, but also expanding our business, which is our biggest target as a global medical device company
- To achieve business success as a company, adopting well-designed strategic solutions is significant. Key strategies are optimizing the business portfolio, enhancing in-house development capabilities, investing in startup companies, and encouraging synergies between the company's core technologies and innovations from startups
- To deepen understanding of regulations and harmonization globally. It is the responsibility of industries to fully understand the content of these new regulations and utilize new frameworks, and then **develop effective application strategies**, which is an essential process to realizing our growth strategy



## Thank you/Questions

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