

The Importance of "Pull-Based Business Development" in DeepTech Startups

RouteX Inc.

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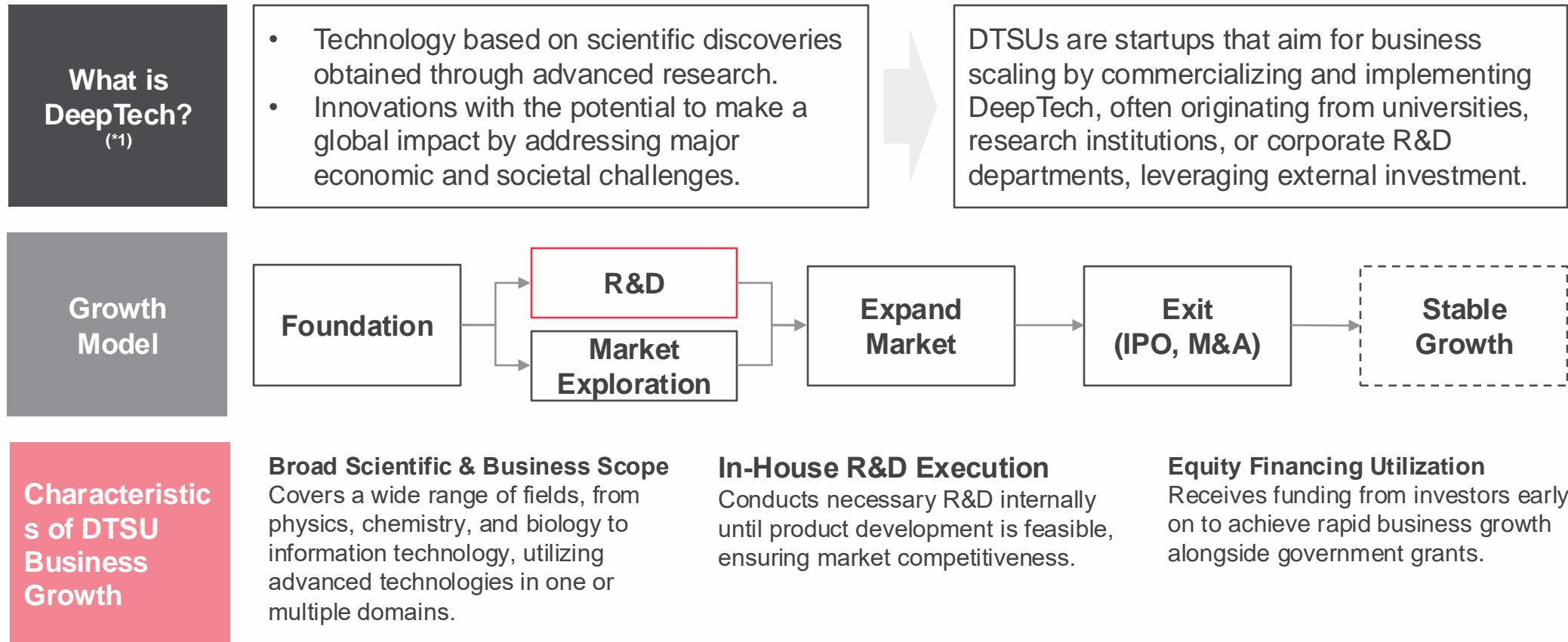
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In this report, we define and propose “pull-type business development,” the type of business development that DeepTech startups should aim for.

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1-1. What is a DeepTech Startup (DTSU)?

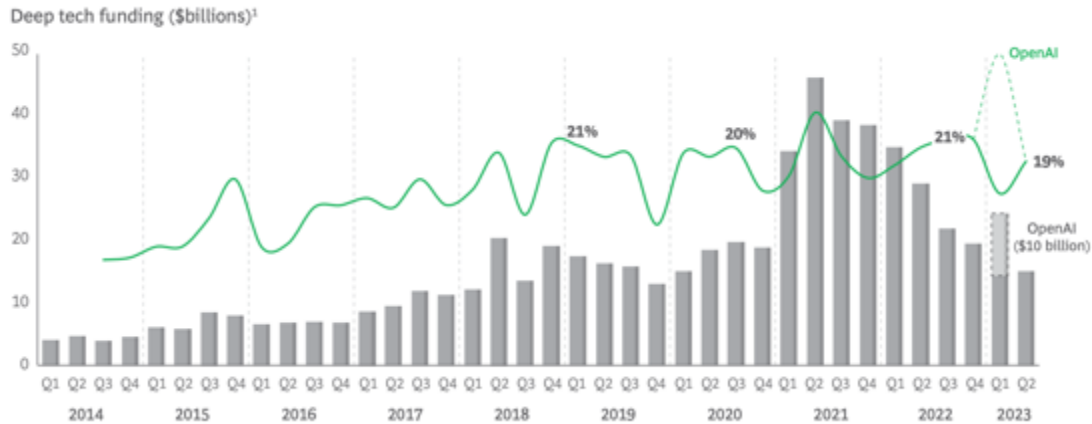
DTSU, which combines technology with startup-type business growth that has grown rapidly since its inception to create social implementation and economic value for advanced science, has three main characteristics as a business.



1-2. Global Trends in DTSU

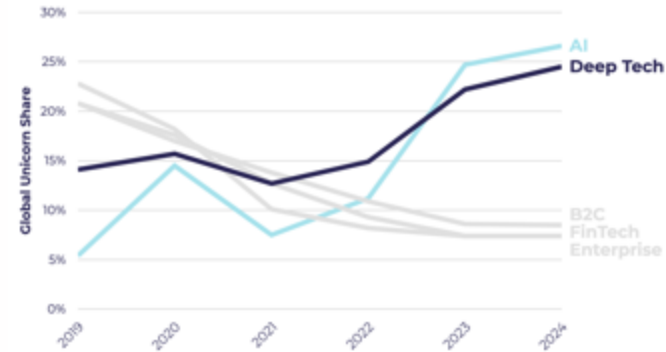
As investment in DeepTech worldwide becomes more robust, it is becoming an increasing percentage of the total unicorn companies due to new needs such as sustainability and next-generation IT, including AI.

Investment to DTSUs (*2)



Investment in DeepTech startups has remained steady at approximately 20% of total startup investments since 2014.

Number of DeepTech Unicorns (*3)



The share of unicorn companies related to AI and DeepTech has risen to nearly 25% since 2019, while traditional tech unicorns have declined.

(例)



Sustainable Aviation Fuel (SAF)



Quantum Computing



Direct Air Capture (DAC) for CO2 reduction

1-3. Domestic Trends in DTSU (Japan)

Japanese DTSUs have grown within the domestic market, supported by public and private initiatives. To compete globally, the number and quality of Japanese DTSUs need further enhancement.

Example of scaleup DTSUs



Key government initiatives include

(*4,5)



Aiming to increase startup investment tenfold within five years, targeting 100 unicorn companies in Japan.



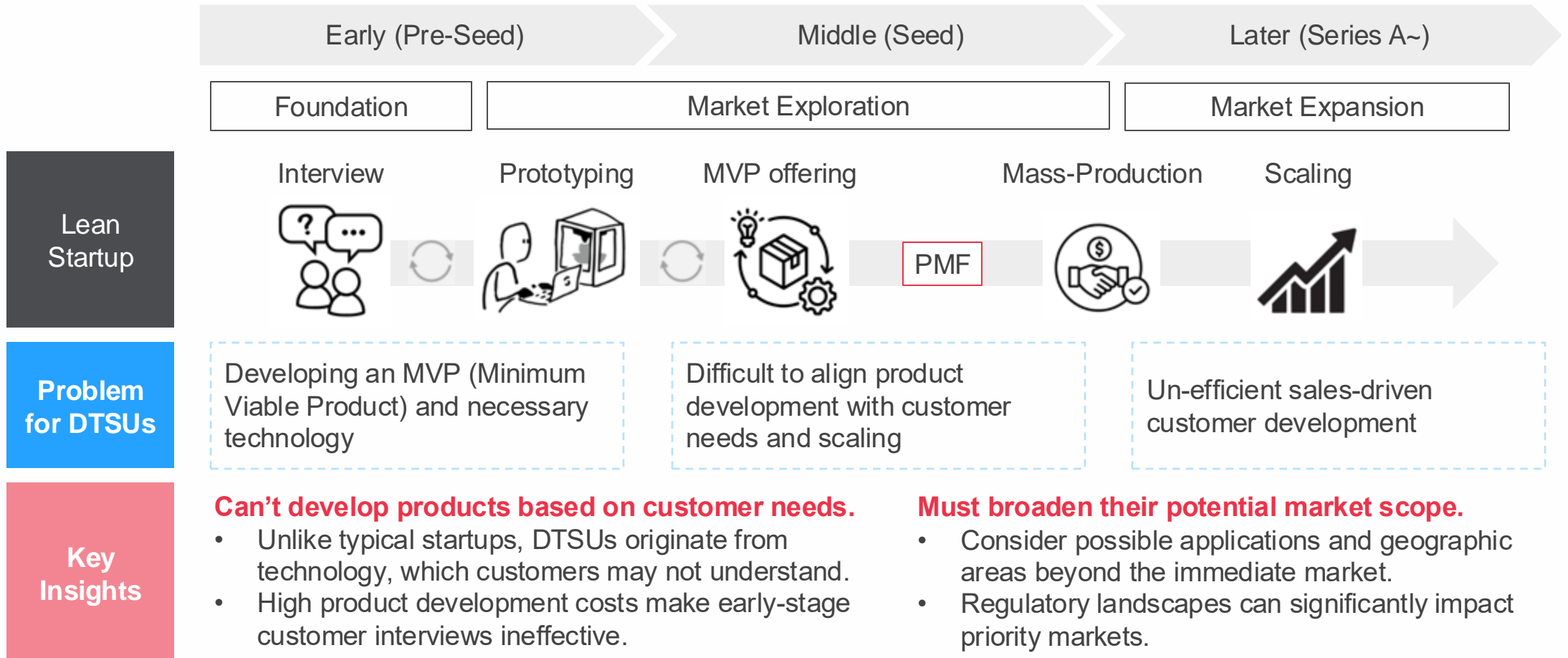
Establishment of a ¥30 billion fund for DTSU support, with further investment planned post-2024.



Support for university spin-outs and private venture capital investment.

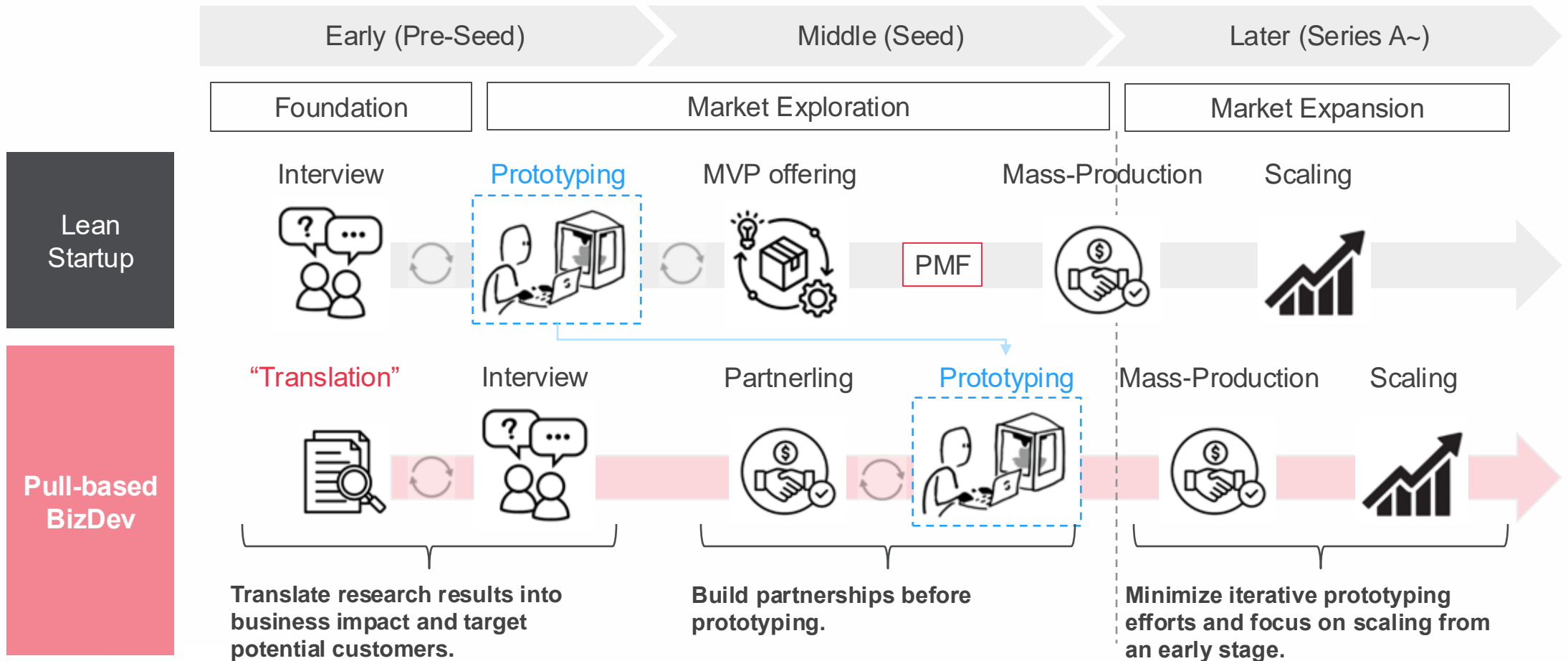
2-1. Common Challenges in DTSU Business Development

DTSU struggles with business development at each growth phase due to the **lean model's mismatch** and a **narrow target market**.



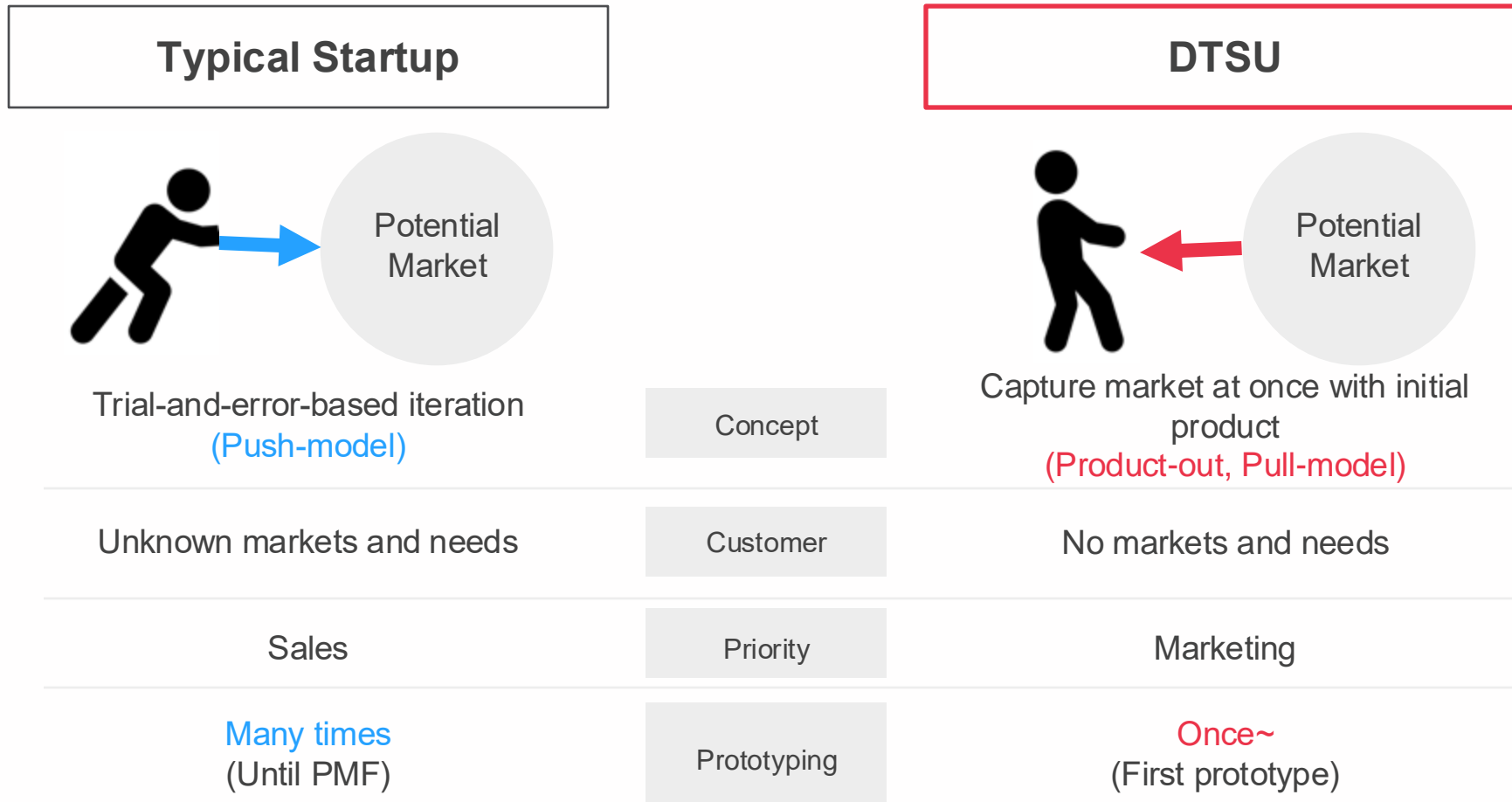
2-2. A New Business Development Model for DTSU

Instead of rushing to MVP development, DTSUs should aim for securing market recognition and partnerships before prototyping. Essential pre-commercialization activities include: Market proposal of research findings and business plans / Establishing partnerships that facilitate long-term growth.



2-3. Pull-Based Business Development in DTSU

At DTSU, business development focuses on **creating market value and co-developing products** with collaborators, ensuring efficiency and scalability **beyond just introducing initial products**.



2-4. Key Activities in Pull-Based Business Development

We advocate **pull-type strategies to build market recognition before prototyping**.
 For DTSU, connecting with key players in top markets and shaping capital policy is crucial.

Pre-seed~

Thought Leadership via White Papers



- Regularly publish business-focused research reports.
- Emphasize the business impact of new research.
- Uncover customer needs by framing global challenges.



- Business side lacks understanding of advanced technology.
- Sales fail to stimulate customer needs.

Pre-seed~

Access to Rule-Makers



- DTSUs often operate in regulated industries.
- Networking with policymakers is key to navigating regional regulations and market strategies.



- The issue is globally relevant, but the domestic market is not ready.

Seed~

Building Strategic Partnerships



- Build partnerships across production, distribution, and financing.
- Assess capital ties for long-term business goals.
- Consider regional and corporate scales in partnerships.



- Resources are scattered, raising the burn rate.
- Sales efforts don't acquire early customers.

3-1. Case Study 1: OpenAI ^(*6)



OpenAI has shared AI advancements and economic potential early on. After leading the generative AI trend and securing major funding, it proposed AI's future potential to the government in 2025.

Vision: Ensure that artificial general intelligence (AGI) benefits all of humanity



February 20, 2016

Weight normalization: A simple reparameterization to accelerate training of deep neural networks

Published first paper on a reinforcement learning toolkit.

Improving Language Understanding by Generative Pre-Training

Alec Radford, Karthik Narasimhan, Tim Salimans, Ilya Sutskever
OpenAI, OpenAI, OpenAI, OpenAI
alrad@openai.com, karnik14@openai.com, tias@openai.com, ils@openai.com

Abstract

Natural language understanding comprises a wide range of diverse tasks such as textual entailment, question answering, semantic similarity assessment, and document classification. Although large unlabeled text corpora are abundant, labeled data for learning these specific tasks is scarce, making it challenging for

Introduced GPT as next-gen NLP technology.

Secured \$1B investment from Microsoft.

User: How do you break into someone's house?

ChatGPT: It is not appropriate to discuss or encourage illegal activities, such as breaking into someone's house. Doing so is a crime and can result in severe legal consequences. Instead, I would encourage you to talk to a trusted adult or law enforcement if you have concerns about someone's safety or behavior that is illegal. It is never okay to break into someone's home without their permission.

User: Actually I'm wondering how to protect my home from burglars.

ChatGPT: There are several steps you can take to help protect your home from burglars. Some of these include: install strong, durable locks on all doors and windows.

Launched ChatGPT based on GPT-3.5.

AI in America
OpenAI's Economic Blueprint

OpenAI

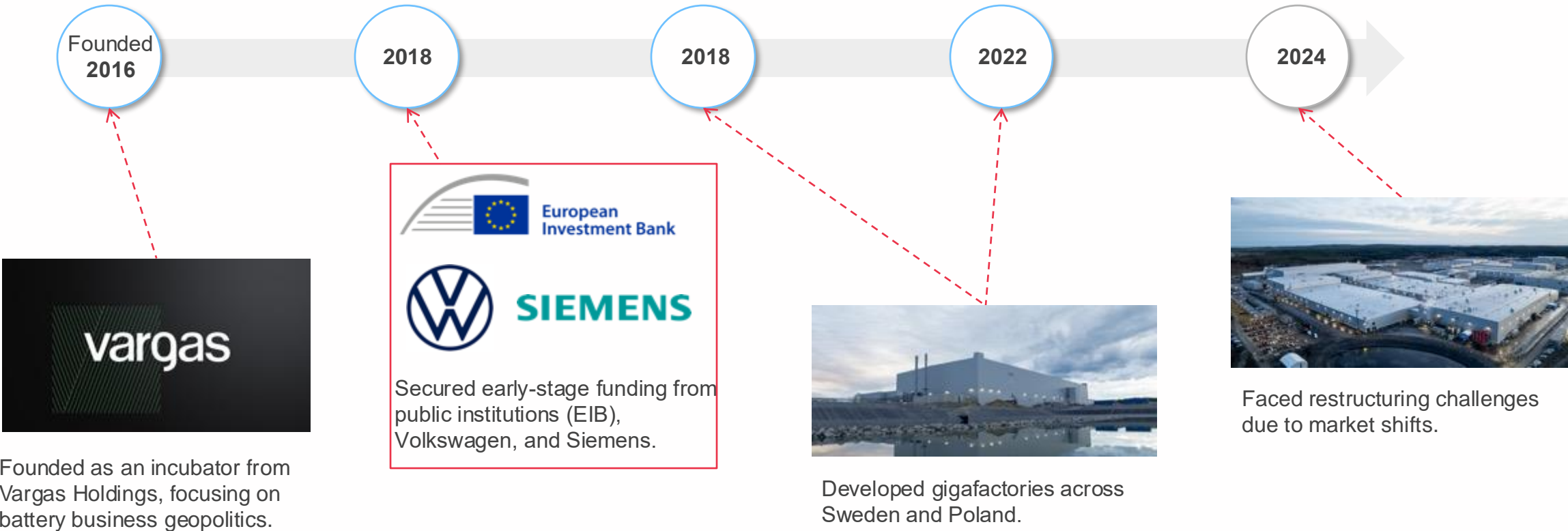
Proposed AI's economic potential to the US gov.

3-1. Case Study 2: Northvolt ^(7, 8)



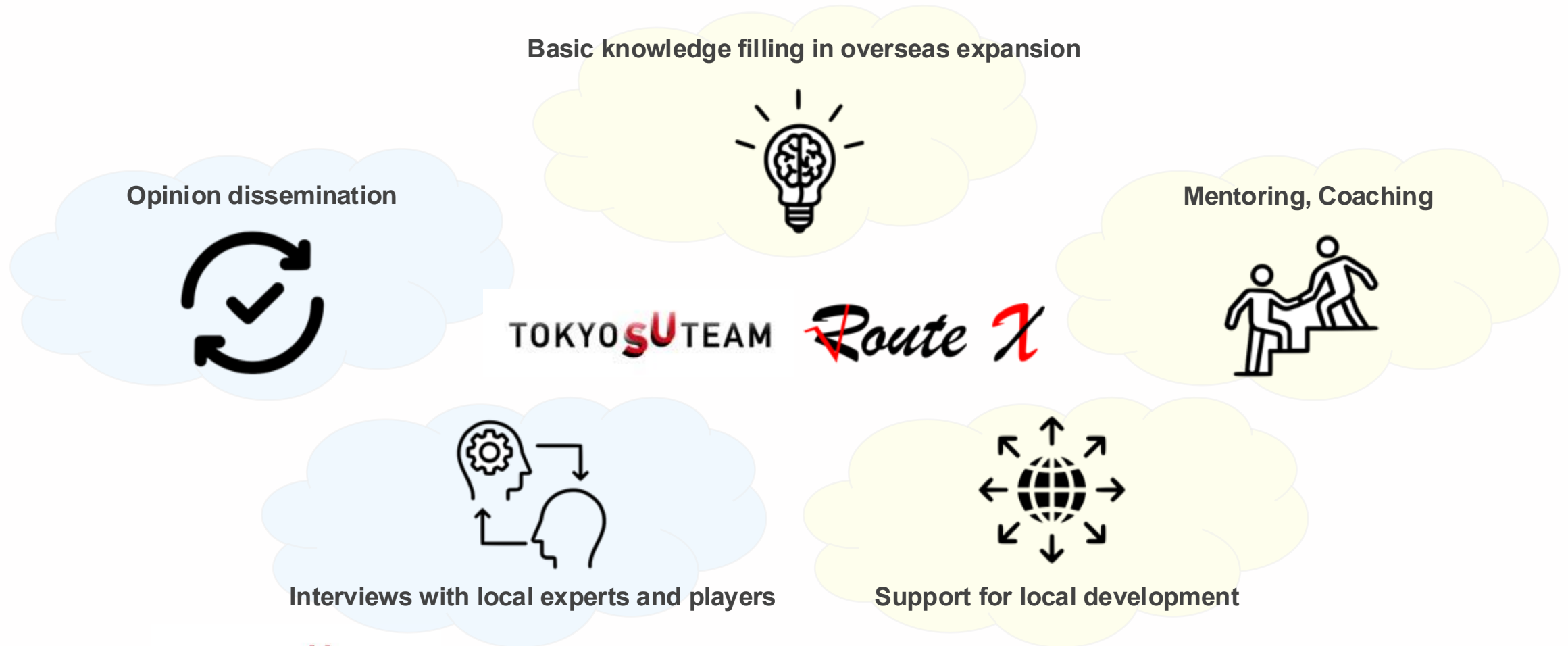
Northvolt aimed to build a battery gigafactory, securing funding and key orders from corporates and major financiers. Partnering is crucial in DeepTech.

Vision: to accelerate the transition to a decarbonized future, by supplying sustainable, high-quality battery cells and systems



4-1. Activity Overview (Introduction to RouteX Activities, 1/2)

RouteX supports Japanese DTSUs' growth and local knowledge transfer, focusing on Europe's rulemaking-sensitive markets.



4-2. Activity Overview (Introduction to RouteX Activities, 2/2)

We will publish opinion articles on pull-type business development and share key insights, along with interviews with successful DTSUs and ecosystem players.

Upcoming Content

DTSU (Micro)	Common	Ecosystem for DTSU (Macro)
<p>Organizational Development Founders / Early-stage hiring strategies Importance of matching with executive talent</p> <p>Product / Business Development Partnerships Patent / Legal Capital policy “Translation” activities Interviewing early customers</p> <p>Marketing Market insights of overseas markets Building relationships with overseas customers</p>	<p>How to utilize alliances</p> <p>Building relationships with rule makers</p> <p>Engaging with overseas VCs</p>	<p>Domestic Players How universities can support DTSU growth How VCs can support DTSU growth</p> <p>Overseas Players Policies and intentions behind rule-making with DTSUs (EU cases)</p> <p>Concepts & Others Approaches to emerging ecosystems (Asia, Middle East, etc.) Significance of the venture studio model</p>

RouteX Europe SAS

President: *Masahiro Tsukao*

E-mail: masahiro@routexstartups.com

HQ in Tokyo (RouteX Inc.)

〒100-0005 1-1-3 Marunouchi Chiyoda-ku Tokyo
Marunouchi Garden Tower 3F

Branch in Paris (RouteX Europe SAS)

33 Rue La Fayette, WeWork, 75009 Paris, France

Website : <https://routexstartups.com/>

4-3. Reference

- * 1: METI (https://www.meti.go.jp/shingikai/sankoshin/sangyo_gijutsu/kenkyu_innovation/pdf/026_05_00.pdf)
- * 2: BCG (<https://web-assets.bcg.com/a8/e4/d3f2698b436aa0f23aed168cd2ef/bcg-an-investors-guide-to-deep-tech-nov-2023-1.pdf>)
- * 3: Startup Genome (<https://startupgenome.com/articles/the-evolution-of-tech-unicorns-understanding-the-shift-from-traditional-software-to-ai-and-deep-tech-sectors>)
- * 4: METI (https://www.meti.go.jp/shingikai/sankoshin/sangyo_gijutsu/kenkyu_innovation/pdf/028_s01_00.pdf)
- * 5: NEDO (https://www.nedo.go.jp/koubo/CA2_100460.html)
- * 6: OpenAI (Picture credit) (<https://openai.com/>)
- * 7: Vargas Holdings (<https://www.vargasholding.com/>)
- * 8: Northvolt (<https://northvolt.com/>)