



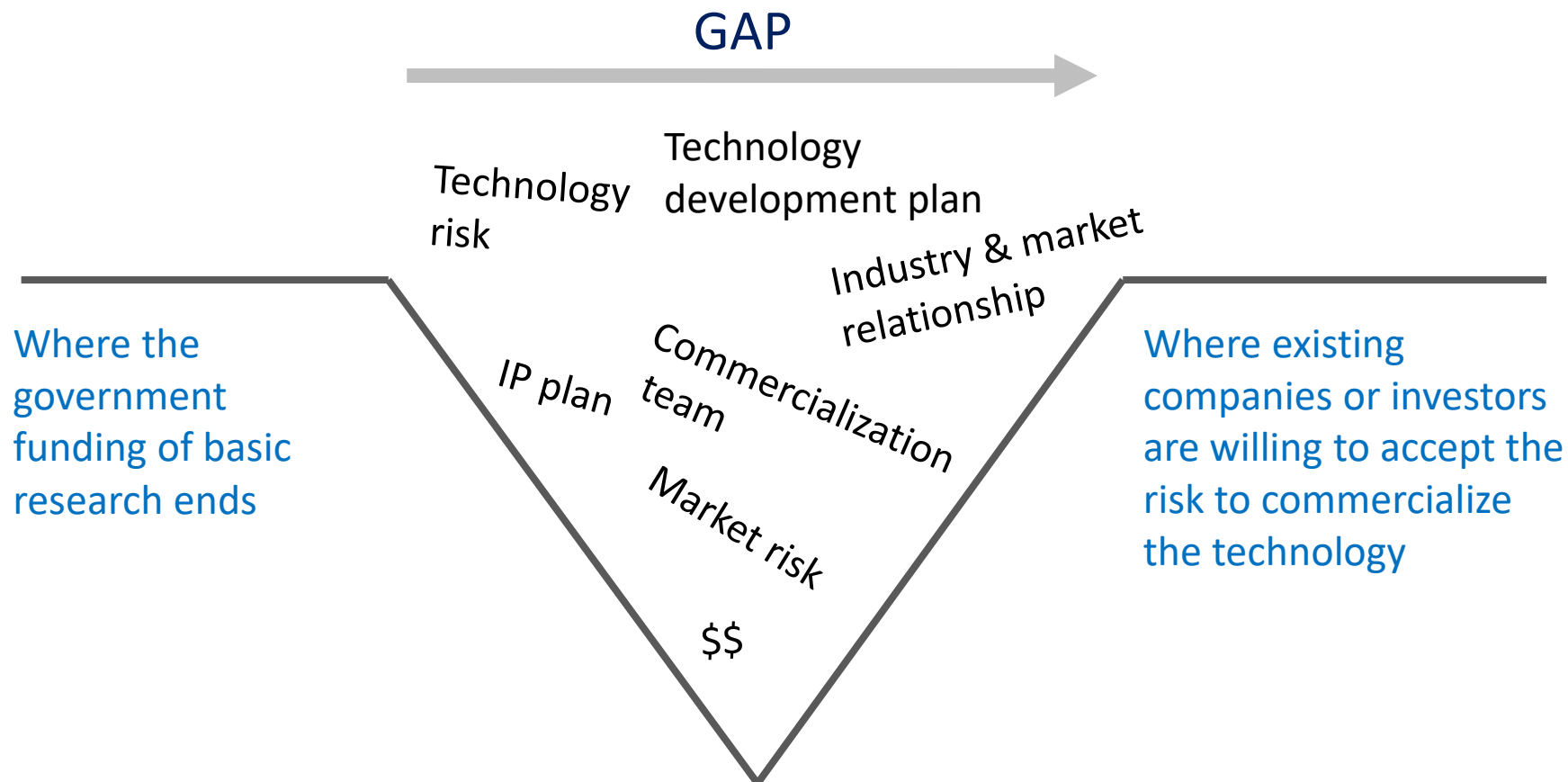
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University Proof-of-Concept (PoC) program accelerates university technology to the market

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University Proof-of-Concept (PoC) program

The PoC Gap extends from **where the government funding of basic research ends** to **where existing companies or investors are willing to accept the risk to commercialize the technology**.



Overview of Osaka University PoC program

- Managed by Osaka University Office for Industry-University Co-creation
- Target research field: All field
- Fund source(s):
 - Government: Multiple sources
 - University: 10% overhead of joint research fee obtained from industry
- Fund size: ca. 25-50K US\$/project (Total: ca. 400K US\$)
- Sustainability: Negotiation with each source every year
- Expected financial return: No

Process of PoC program




25-50K US\$/project

PoC program is not only about the money.

Within this process, there are many complex tasks which TTO should work for university technology commercialization. The key is to integrate and grow innovation community.

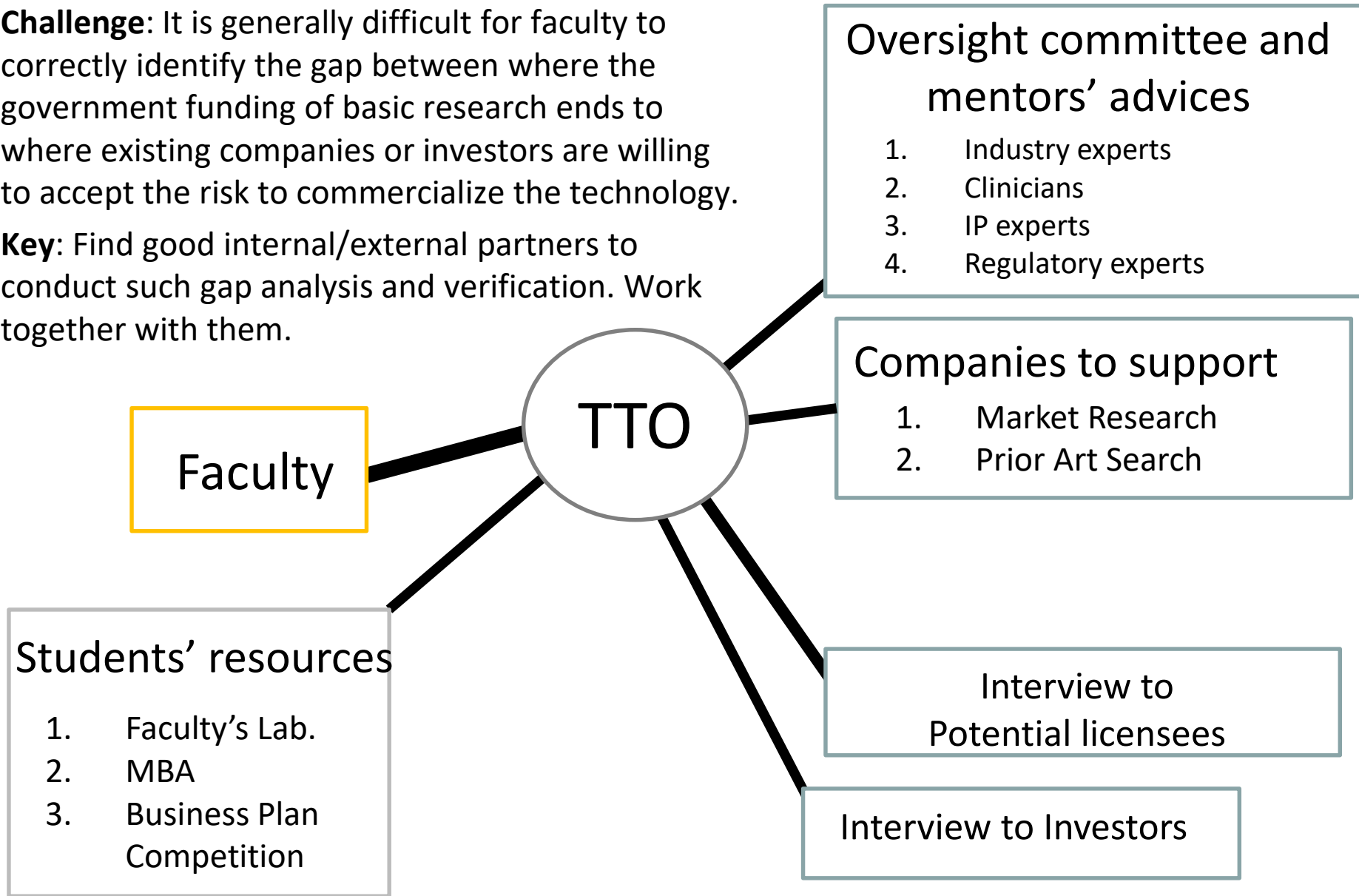


Focusing on four (4) Key Success Factors (KSFs) of PoC Program

KSF1: Gap analysis and verification

Challenge: It is generally difficult for faculty to correctly identify the gap between where the government funding of basic research ends to where existing companies or investors are willing to accept the risk to commercialize the technology.

Key: Find good internal/external partners to conduct such gap analysis and verification. Work together with them.



PoC experiment to reduce the technology risk

In many cases, based on the gap analysis and verification, PoC experiment to reduce the technology risk is needed.

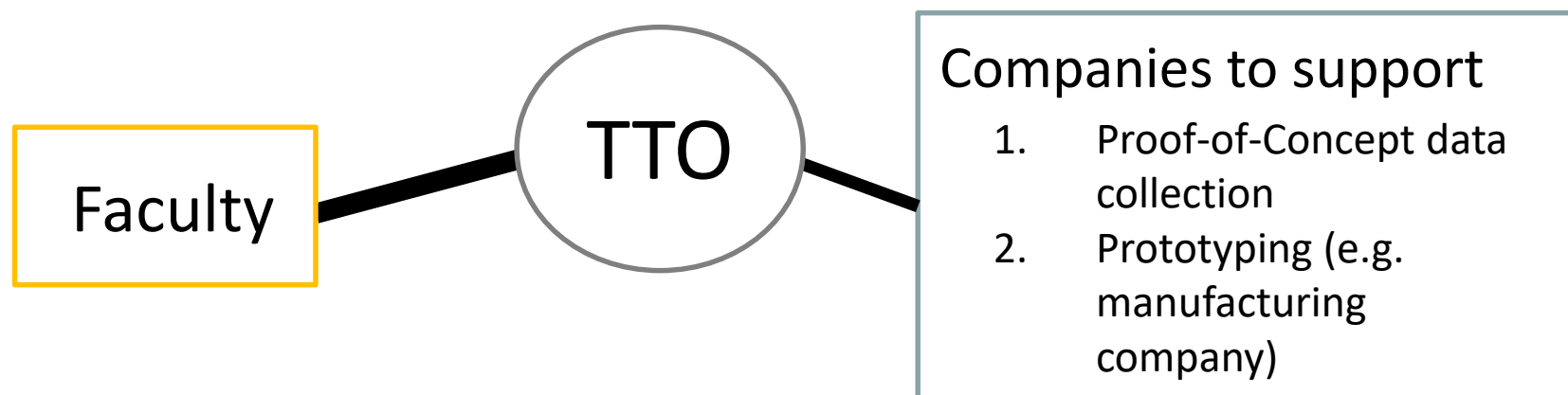
e.g.

- Scale up experiment
- Undertake testing of a technology or material to obtain data on performance
- Develop a more user-friendly software interface
- Send a material out to independent third party for testing under industrial conditions
- Conduct *in vivo* or animal testing of a new compound

KSF2: Outsource

Challenge: Faculty is generally not interested in the data collection or prototyping which are NOT lead to the publication of academic papers.

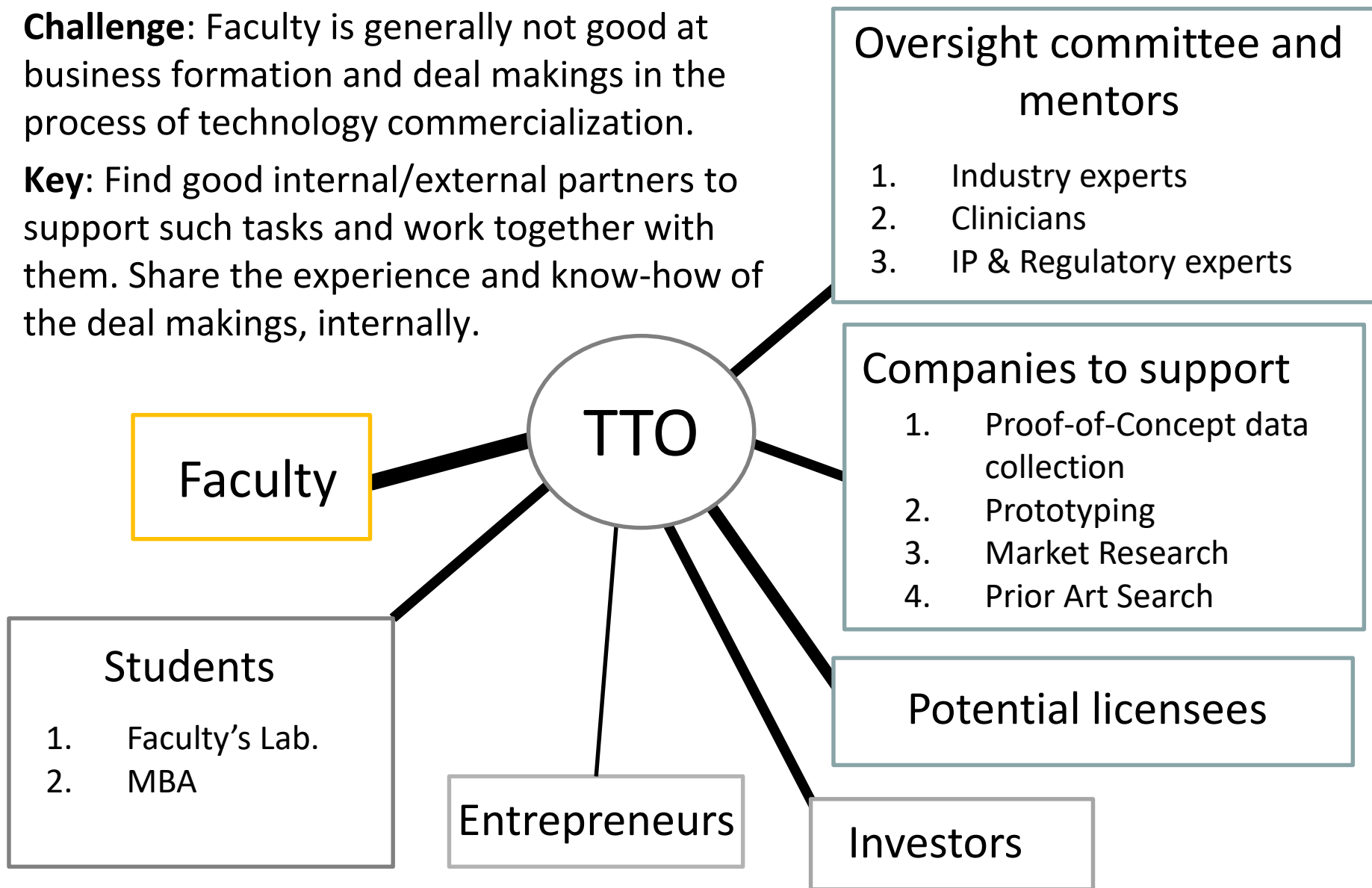
Key: Find good internal/external partners to support such PoC data collection and prototyping. Work together with them.



KSF3: Team formation and deal makings

Challenge: Faculty is generally not good at business formation and deal makings in the process of technology commercialization.

Key: Find good internal/external partners to support such tasks and work together with them. Share the experience and know-how of the deal makings, internally.



KSF4: TTO should be a facilitator but not be a leader

Challenge: TTO should be trusted but should not be depended by the faculty.

Key: TTO staff should be a facilitator but should not be a leader of the project.

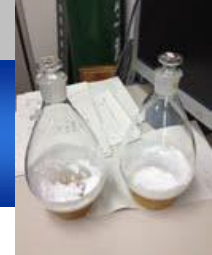
Selection criteria at Osaka Univ.

- Results of interview(s) to potential licensee and/or investors
 - If the specific data collection or prototyping is completed within one year, can this project be succeeded in e.g.
 - Licensing to the potential licensee(s)?
 - Committed by the investor(s)?
 - Market :needs, size, trend, and new vs. existing market.
 - Social contribution
 - Sustainability of competitive advantage.
 - Intellectual property: e.g. freedom to operate.
 - Barrier to market entry: e.g. regulatory path and custom.
 - Stage of development and technology development plan
 - Resource allocation
 - Business formation
- Based on the gap analysis and verification, the plans were mostly modified from the PI's initial proposal.

Large weight



Real case study: A new epoxy resin



Technology prior to PoC program

- A principal investigator (PI) at Osaka University – methods to enable chemical powder reaction without solvent (liquid) under a laboratory scale.
→ important applications in epoxies



PoC project (ca. 30K US\$): Scale-up experiment

- **Gap analysis:** The PI originally planned to use a large-size glass reactor. However, an external judge advised PI's group that the group should negotiate with a company to rent a larger scale chemical reactor to meet industry's needs.
- **Deal making:** TTO staff negotiated with a potential licensee to rent a five liter chemical reactor by free of charge under a joint research agreement.
- **Outsource:** The scale-up experiment itself has no value for publishing academic paper. Therefore, an external technician was hired.

Outcome

- **Deal making:** Potential licensee launched an incubation laboratory inside Osaka University under a joint research agreement
- **Deal Making:** Licensing agreement with the potential licensee

Metrics: Evaluation of PoC program

How do we measure the effectiveness of PoC Program?

- Short-term
 - Have you overcome the four (4) major challenges as shown in slides 8 - 12?
 - Have you moved the project to bridge the next gap (e.g. to get **follow-on public funding**)?
 - Have existing companies or investors accepted the risk to commercialize the technology (e.g. to make deals on **joint research/licensing agreement** or to **get an investment**)?
- Long-term
 - Have you built a community to bridge the PoC gap?
 - Have you formed business and created job?

Evaluation of OU PoC program (FY2011-2015)

- Short-term
 - 163 proposals received
 - 63 proposals accepted and hands-on supported
 - 41 Joint research agreements signed
 - 6 Licensing agreements signed
 - 33 follow-on public funding granted
 - 3 startup companies launched and got investment
- Long-term
 - Building a community to bridge the Gap:
 - ca. 20 external advisors including industry experts, VCs, IP experts, and regulatory experts.
 - Subscription of Market Research Databank



Thank you for listening.
Questions?

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