Quality Startup Management System

HKSTP

Lotto Lai (Former Chairman, HKSQ)

Manager, Quality System

Hong Kong Science and Technology Parks Corporation

Nov 2015

Agenda

▶ Introduction of Incubation Program in Hong Kong Science and Technology Parks Corporation (HKSTP)

▶ Introduction of Hong Kong Quality Assurance Agency (HKQAA)

▶ Introduction of Hong Kong Society for Quality (HKSQ)

▶ Theoretical Background

   ■ Business Model Canvas

   ■ ISO 9001:2015

   ■ HKSTP Incubation Milestone Assessment

   ■ HKQAA Quality Startup Checklist

   ■ HKSQ proposed Quality Startup Management System (QStarMS) Model

▶ Conclustion

HKSTP

Hong Kong Science and Technology Parks

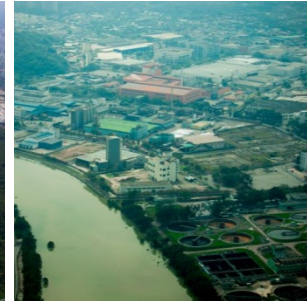| Science Park	InnoCentre	Industrial Estates		
R&D of Technology Applications	Brand Design and Marketing	Skill-intensive Advanced Manufacturing		
👤 11,065 🧳 524	👤 1,143 🧳 81	👤 13,000 🏭 82	👤 3,700 🏭 53	👤 9,100 🏭 35
Shatin	Kowloon Tong	Tai Po	Yuen Long	Tseung Kwan O

Science Park logos: PHILIPS, FUJITSU, BYD, TDK, HUAWEI, TCL, CREE, GOLD PEAK

InnoCentre logos: KL&K DESIGN, James Law Cybertecture, Kitchen* Freshest branding solutions, eMotion lab

Industrial Estates logos: watsons 屈臣氏, 余仁生 Eu Yan Sang, 位元堂, HSBC, HAECO, 美心 Maxim's, San Miguel, Beijing Tong Ren Tang 北京同仁堂, VITA GREEN 維特健靈, South China Morning Post scmp.com, HKEx 香港交易所, BRIDGESTONE, China unicom 中国联通, NTT Communications NTT Com Asia Limited, 中国移动 China Mobile, HKTDC 香港貿發局
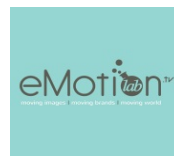
HKSTP

Hong Kong Science Park

Phased development to cater to the needs of science and technology sector…
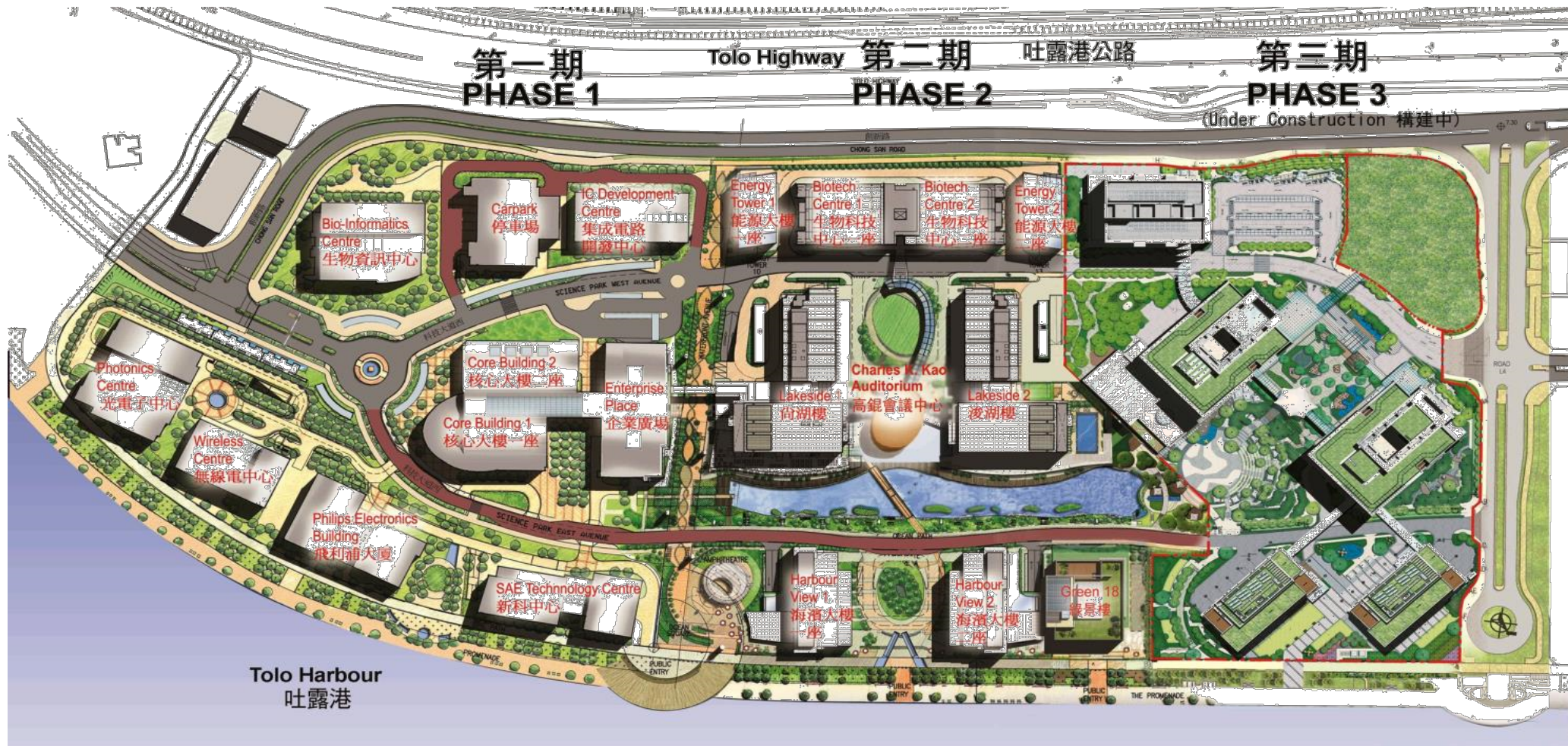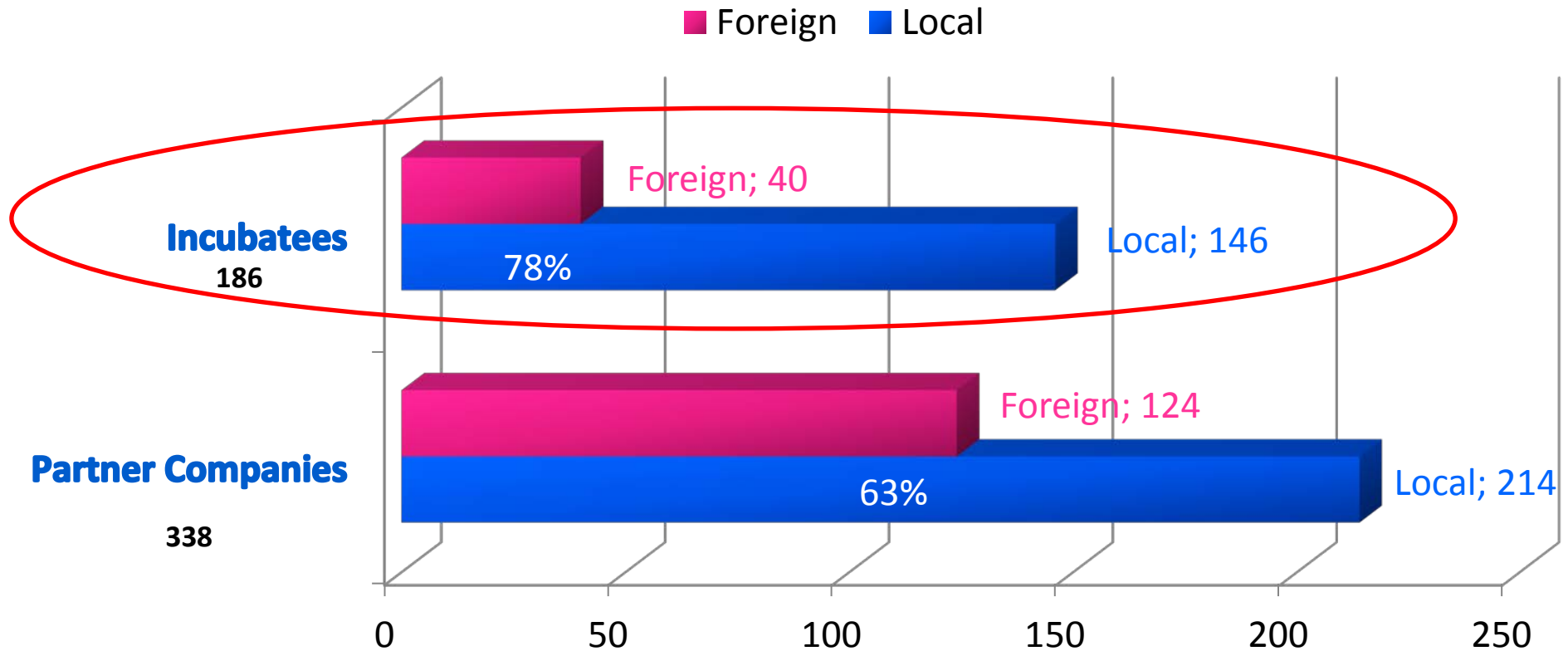
The Road towards Entrepreneurship

Incubation Programmes

TPP
6 Universities + 14 Co-working space

Soft Landing Programme
Explore business opportunities in Hong Kong

Incubation Programme
Full support to build up a tech company in 5 key clusters

LEAP
Foster high potential companies to grow into regional / global enterprises

Angel Investment
Regular angel investment matching with Hong Kong Business Angel Network (HKBAN)

VC Partnership
Bridge Venture Capital firms and investment-ready tech companies

Corporate Venture Fund
Co-invest with VC and/or Corporate Venture

HKSTP

HKSTP Incubation Programmes

Member of *National Business Incubation Association (NBIA),*
Asian Association of Business Incubation, 兩岸三地共同孵化網絡

	Incu-App 網動科技.創業.培育	Incu-Tech 科技.創業.培育	Incu-Bio 生物科技.創業.培育
Period	18 months	3 years	4 years
Office Type	Open Office	Individual Office	Wet Lab
Monthly License Fee*	**2** free workstations HK$3,180 for each onwards	**Free** for 1st year (<800 ft^2) HK$12.4/ft^2 2nd year onwards	**Free** for 1st year (<800 ft^2) HK$16.5/ft^2 2nd year onwards
Technology Areas	Mobile App Web App Portal Games	IT & Telecomm. Electronics Green Tech Precision Engineering	Therapeutics Personal Care Medical devices Chinese Medicine
Aid Package Subsidy	**Total: HK$300,000**	**Total: HK$645,000**	**Total: HK$860,000**
Business Support Fund	HK$300,000	HK$300,000	HK$400,000
Technology Support Fund		HK$300,000	HK$400,000
Micro Fund	NA	HK$45,000	HK$60,000

*The license fee is on monthly basis inclusive of electricity and management fee, and is subject to change without prior notice.

Effective till 31.3.15

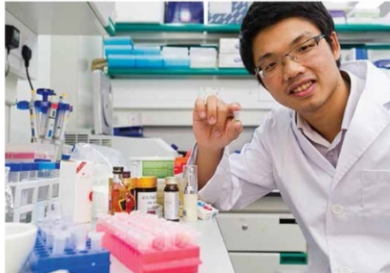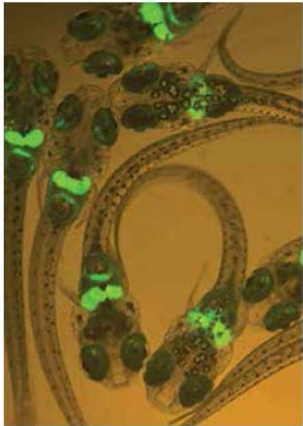Soft Landing Programme | Incubation Programmes | LEAP Programme | Angel Investment | VC Partnership

HKSTP

HKSTP Incubation Programmes

Incubatees with different Quality System

Vitargent (Int'l) Biotechnology
Transgenic fish to detect estrogenic endocrine disruptors

**ISO/IEC 17025
HOKLAS Accreditation**

Incu-Bio
生物科技.創業.培育

Creaxon Limited
Sensor network systems for site monitoring and control

**ISO 9001
QMS Certification**

Incu-Tech
科技.創業.培育

The eNano Health Ltd.
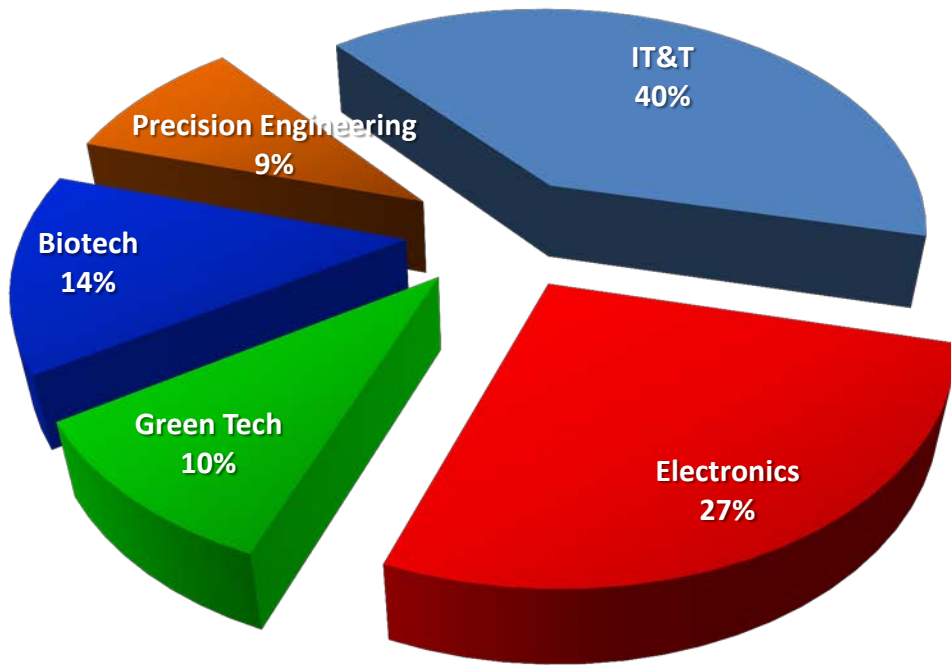Glucose Paper Sensor using saliva to determinate saliva glucose level

**ISO 13485
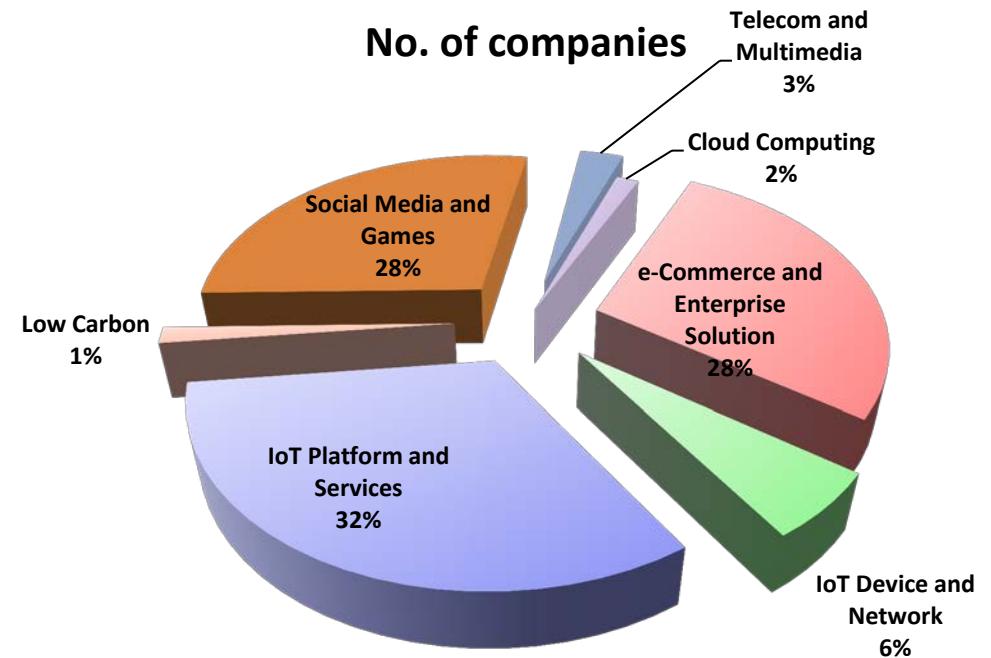Medical Device QMS Certification**

Incu-Bio
生物科技.創業.培育

HKSTP

HKSTP Incubation Programmes
Company Distributions

Incu-Tech/Incu-Bio Cluster Distribution
(Total: 118)

Incu-App Segment Distribution
(Total: 68)

No. of companies

Incu-Tech/Incu-Bio Cluster Distribution:
- IT&T 40%
- Precision Engineering 9%
- Biotech 14%
- Green Tech 10%
- Electronics 27%

Incu-App Segment Distribution:
- Telecom and Multimedia 3%
- Cloud Computing 2%
- Social Media and Games 28%
- e-Commerce and Enterprise Solution 28%
- Low Carbon 1%
- IoT Platform and Services 32%
- IoT Device and Network 6%

As of 30 Jun 2015

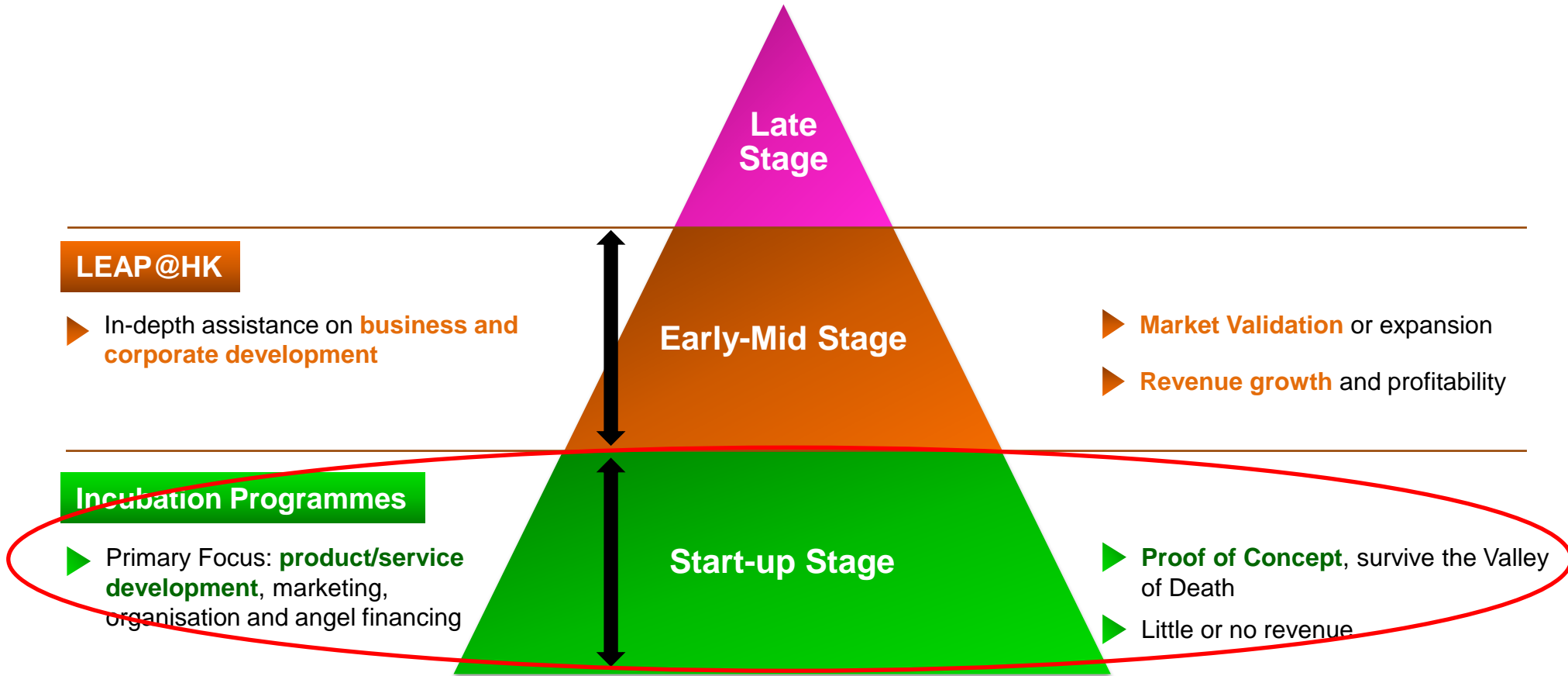Soft Landing Programme   Incubation Programmes   LEAP Programme   Angel Investment   VC Partnership

HKSTP

Leading Enterprises Acceleration Programme

Foster growth of high-potential tech companies

LEAP@HK 飛躍計劃

Late Stage

Early-Mid Stage

Start-up Stage

LEAP@HK

▶ In-depth assistance on **business and corporate development**

▶ **Market Validation** or expansion

▶ **Revenue growth** and profitability

Incubation Programmes

▶ Primary Focus: **product/service development**, marketing, organisation and angel financing

▶ **Proof of Concept**, survive the Valley of Death

▶ Little or no revenue

| Soft Landing Programme | Incubation Programmes | LEAP Programme | Angel Investment | VC Partnership |

HKSTP

Hong Kong Quality Assurance Agency (HKQAA)

▶ Established by the Hong Kong Government in 1989 to help industry and commerce in the development of quality environmental, safety, hygiene, social and other management systems

▶ **Vision**

  ▪ To be a leader in conformity services that is internationally recognised, so as to help improve our livelihood and society.

▶ **Mission**

  ▪ To promote management concepts in accordance with the applicable management system standards, to assist industry and commerce to implement relevant systems, and to deliver world-class conformity services.

▶ **Services:**

  ▪ Certification Services: ISO 9001, ISO 14001, OHSAS 18001, ISO 27001, etc.

  ▪ Registration Services: HK Wine & Cooking Oil Registration, etc.

  ▪ Verification Services: ISO 14064-1/-2, etc.

HKQAA
HONG KONG QUALITY ASSURANCE AGENCY
香 港 品 質 保 證 局

Hong Kong Society for Quality (HKSQ)

▶ A non-profit making organization

▶ Formed in 1986, initially known as *Hong Kong Group of American Society for Quality Control* (ASQC) *International Chapter*

▶ In 1989, renamed to *Hong Kong Society for Quality Control* (HKSQC) as a consequence of increasing local involvement

▶ In 1997, renamed to *Hong Kong Society for Quality* (HKSQ)

▶ HKSQ 30th anniversary will be in 2016!

- **Vision**
  - To be a Hub in Hong Kong and the Region for learning and sharing of knowledge in Quality, Innovation and Best Practices, as well as for facilitating development of a Quality and Innovation Culture
- **Mission**
  - To promote greater awareness of quality evolution in Hong Kong and the Region for ensuring product and service through continuous improvement of quality and customer satisfaction, and to provide continuing education to professionals involved in the quality, reliability and innovation disciplines.
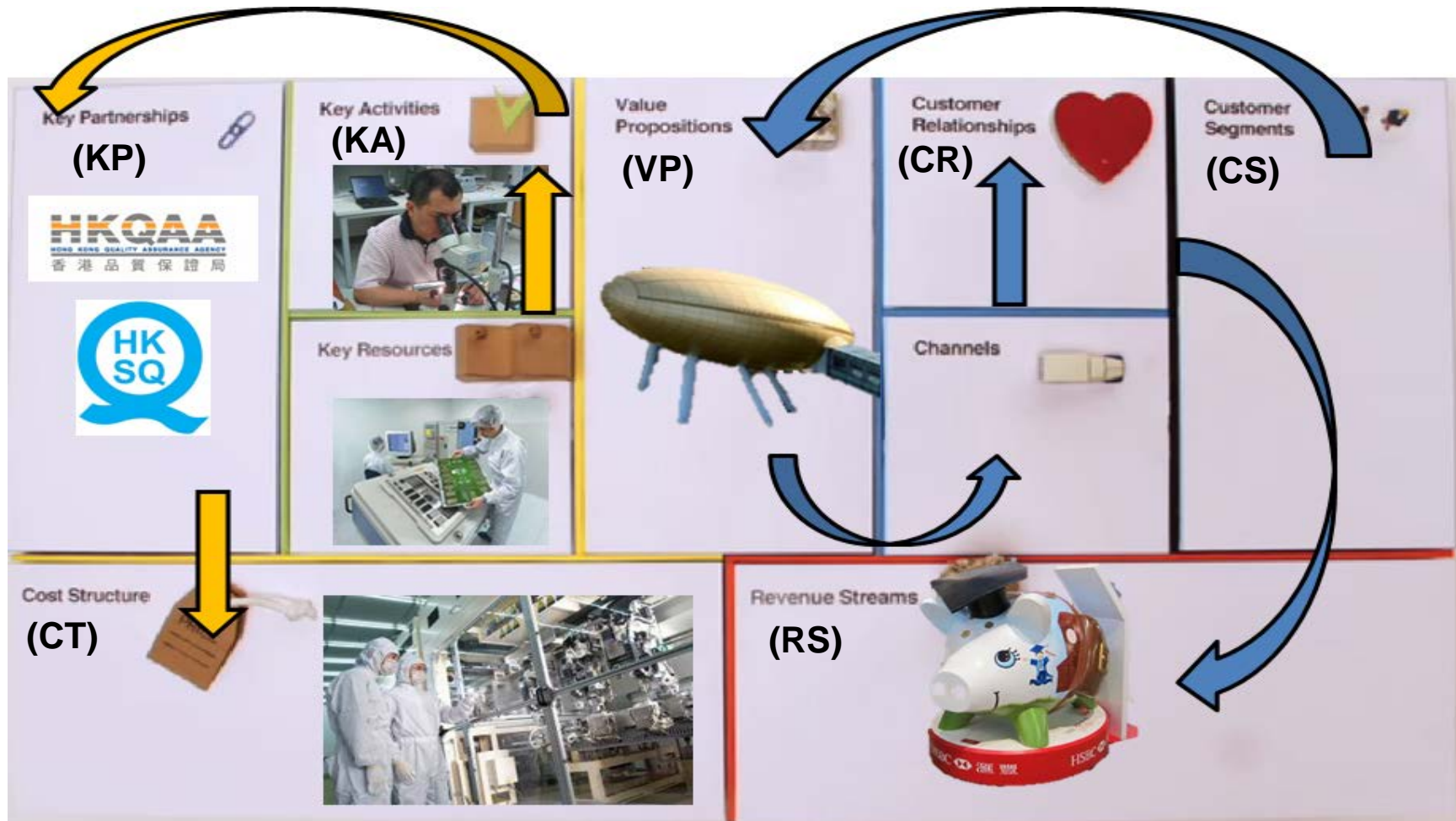- **Values (Respect II)**
  - Reliability
  - Sustainability
  - Professionalism
  - Commitment
  - Improvement
  - Innovation

HKSTP-HKQAA Quality Startup Recognition Idea
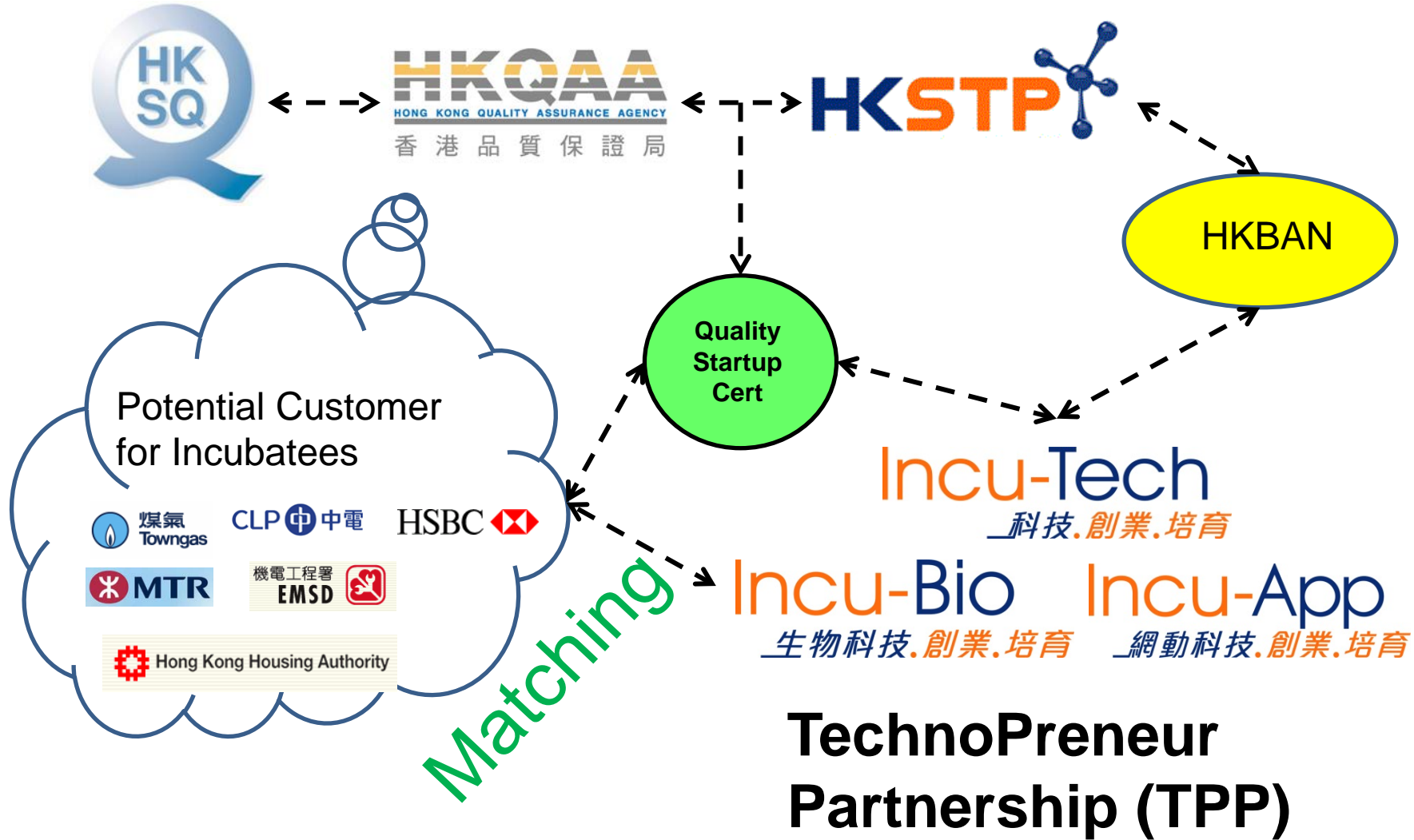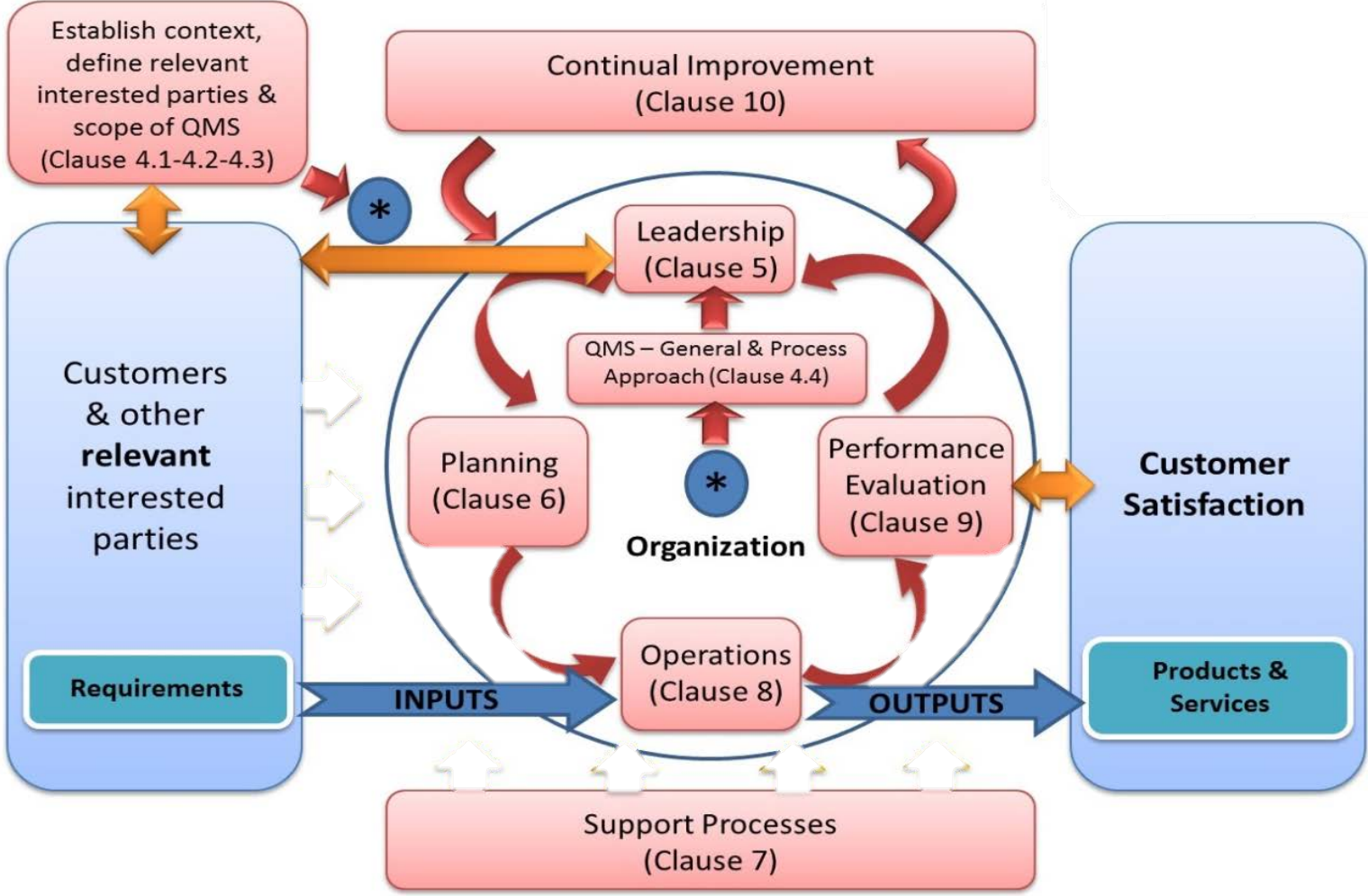
Business Model Canvas – Incubation Program

Development of Quality Startup Management System (QStarMS) Model (I)
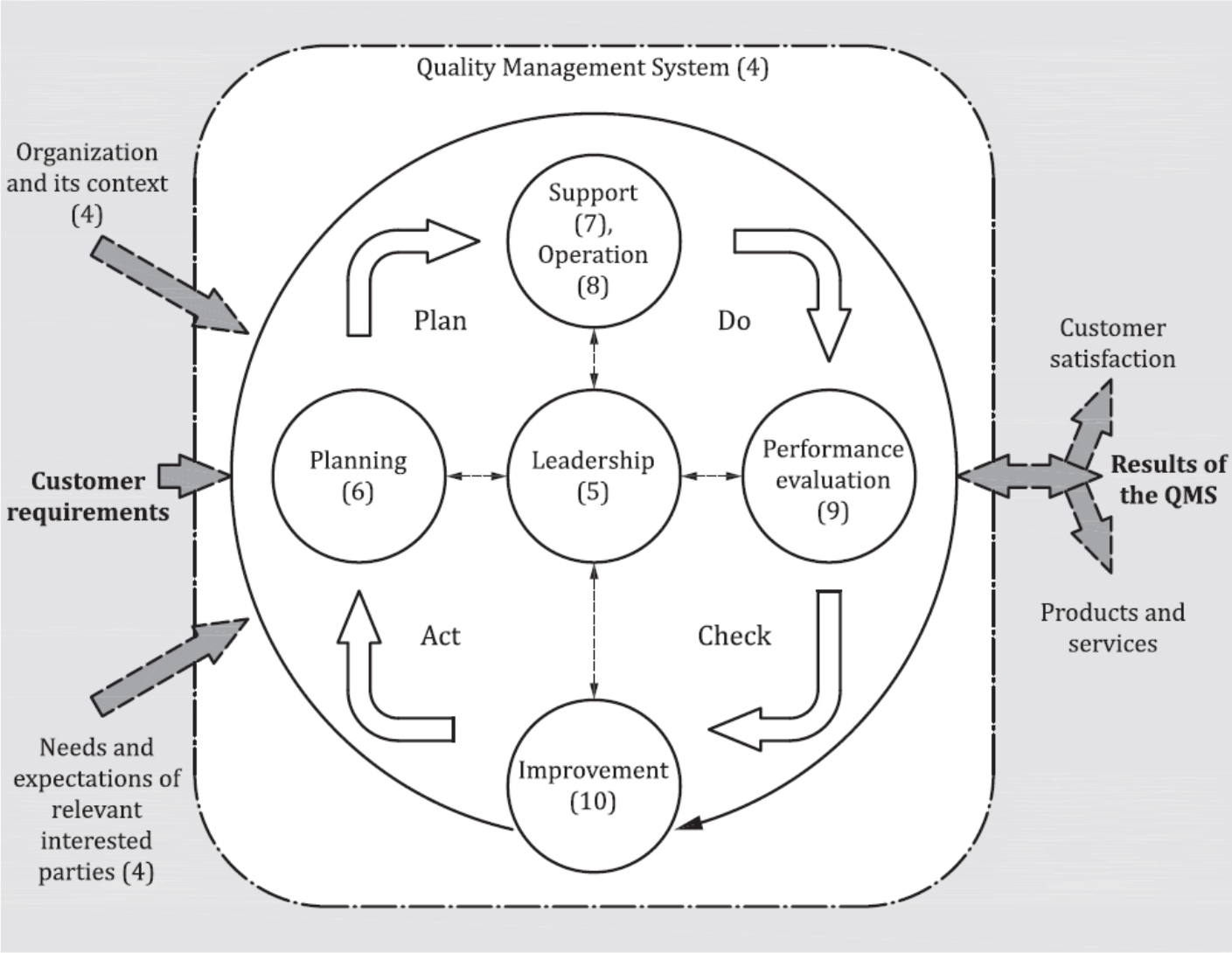
▶**Limitation of Business Model Canvas**

- ■It excludes organization's strategic purpose (Only financial success drive start-up)
- ■It excludes a notion of competition
- ■It mixes levels of abstraction

HKSTP

ISO 9001:2015 (DIS) QMS Model

ISO 9001:2015 – PDCA Cycle with Std Structure

Development of Quality Startup Management System (QStarMS) Model (II)

▶ **Barriers for Start-up Company to achieve ISO 9001 QMS**

- Limitation on Human Resource (Few key members in start-up only)
- Limitation on Knowledge of QMS (No training in the beginning of start-up business)
- Inadequate Management Commitment (Product & Business Development (or Survive) is the first priority.)
- Inadequate Attitude Towards Quality (Delivery first)
- Heavy Documentation Requirement (No practice on traceability)
- Over-expectation on ISO 9001 Standard (What its value on start-up in terms of business?)
- Short-sighted Goal for "Getting Certified" (Access government or big company's tender list)
- Unrealistic Requirements

HKSTP

HKSTP Incubation Milestone Assessment

| Incu-Tech and Incu-Bio	Incu-App
Product Development Progress	
• Design Work • Design for Manufacturing • Testing • Prototype/ Sample • Product Demonstration • Trial Client/ Pilot Site	• Design Work • Technical Testing • Usability Testing • Product Launch
HKSTP Service Utilization	
• Laboratory Service • Assistant Funding • Industry & University Collaboration, etc.	
Business Development Progress	
• Business Partnership • Sales & Marketing Activities • Award Application • Number of Client • Patent/ Trademark Application • Funding Activities • Headcount • Sales Revenue	• Strategic Partners/ Business Collaboration • Promotion & Traffic Driving • Award Application • Download Rate • Patent/ Trademark/ Design Registration • Capital/ Government Funding • Headcount • Sales Revenue

94x IncuTech Companies results (I)

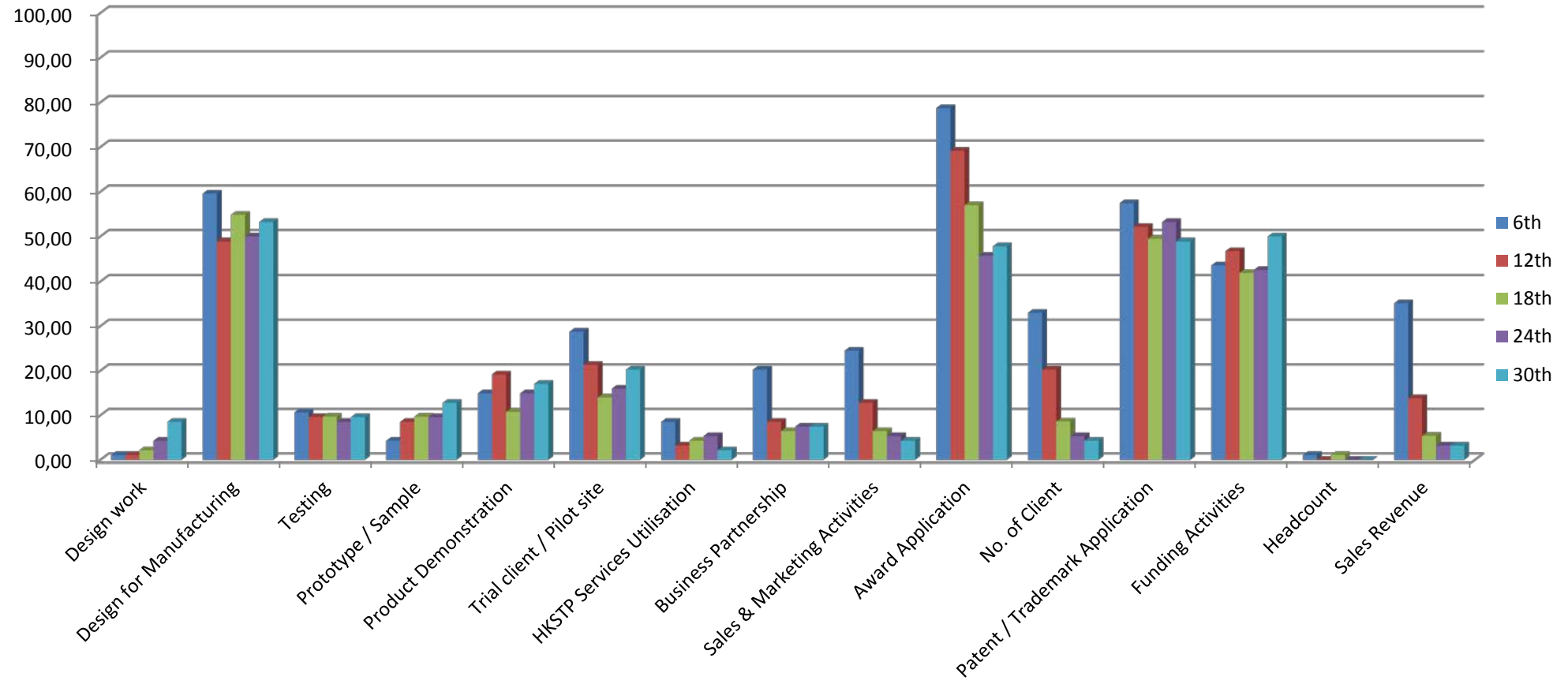**IncuTech Milestone Planned and Met**
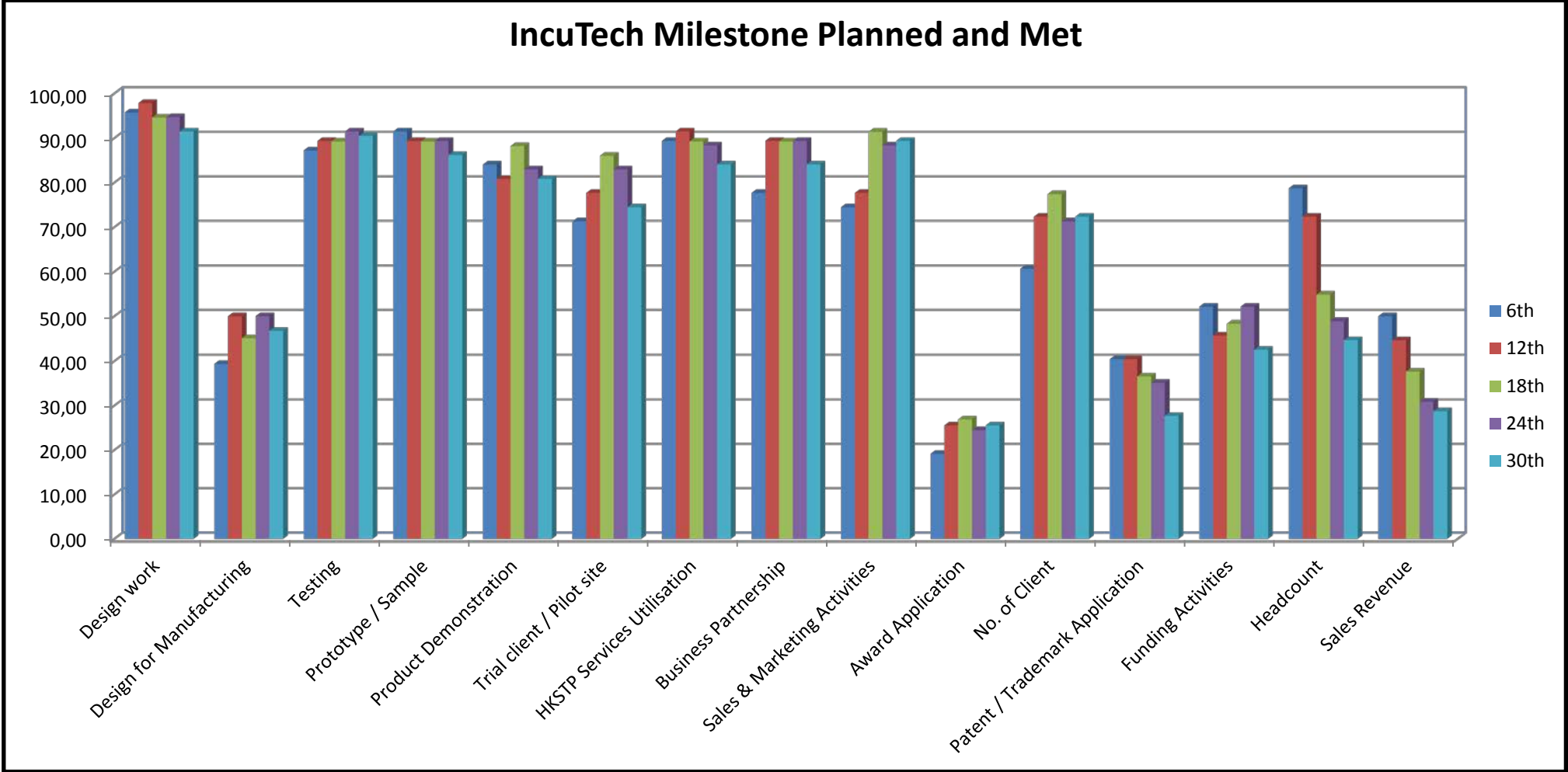
94x IncuTech Companies results (II)

IncuTech Milestone Planned but Missed
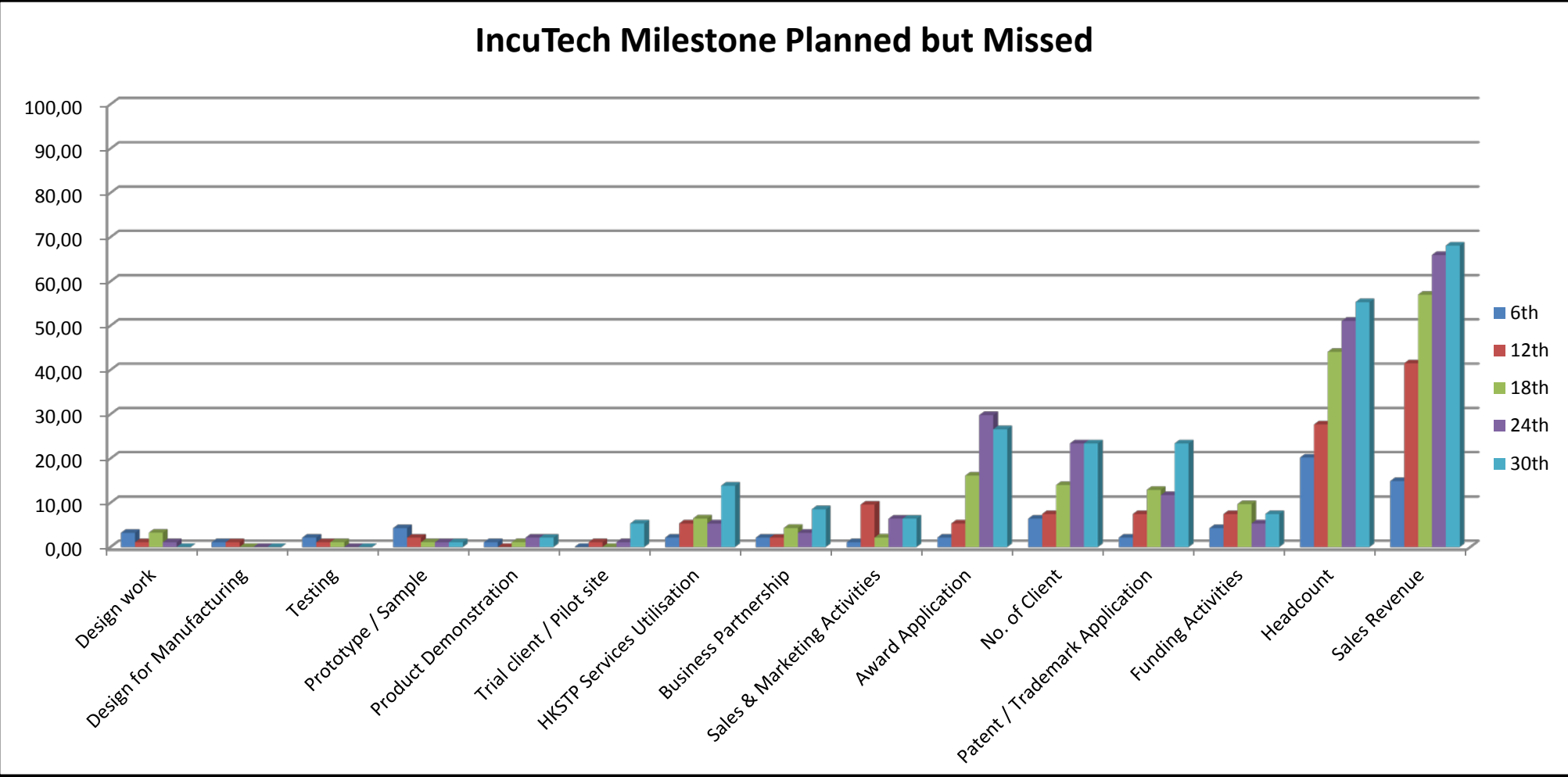
94x IncuTech Companies results (III)

IncuTech Milestone Not Considered (N/A)

Development of Quality Startup Management System (QStarMS) Model (III)

▶ **Observations on HKSTP Incubation Milestone Assessment**

- Most of start-ups had planned and met their product development under their milestone.

- About 50% of start-ups did not consider "Design for Manufacturing". It is probably the IT dominant start-ups in the scheme.

- More than 80% of start-ups planned to employ "HKSTP Service Utilization" so as to enhance their product development.

▶ **For Business Development**, it observed:

- Difficulty to achieve the "Headcount" and "Sales Revenue" they planned in the last three milestones (on 18th, 24th and 30th month).

- More than 60% of start-ups without planning for Award Application

- About 50% start-ups did not consider "Patent / Trademark Application" and "Funding Activities".

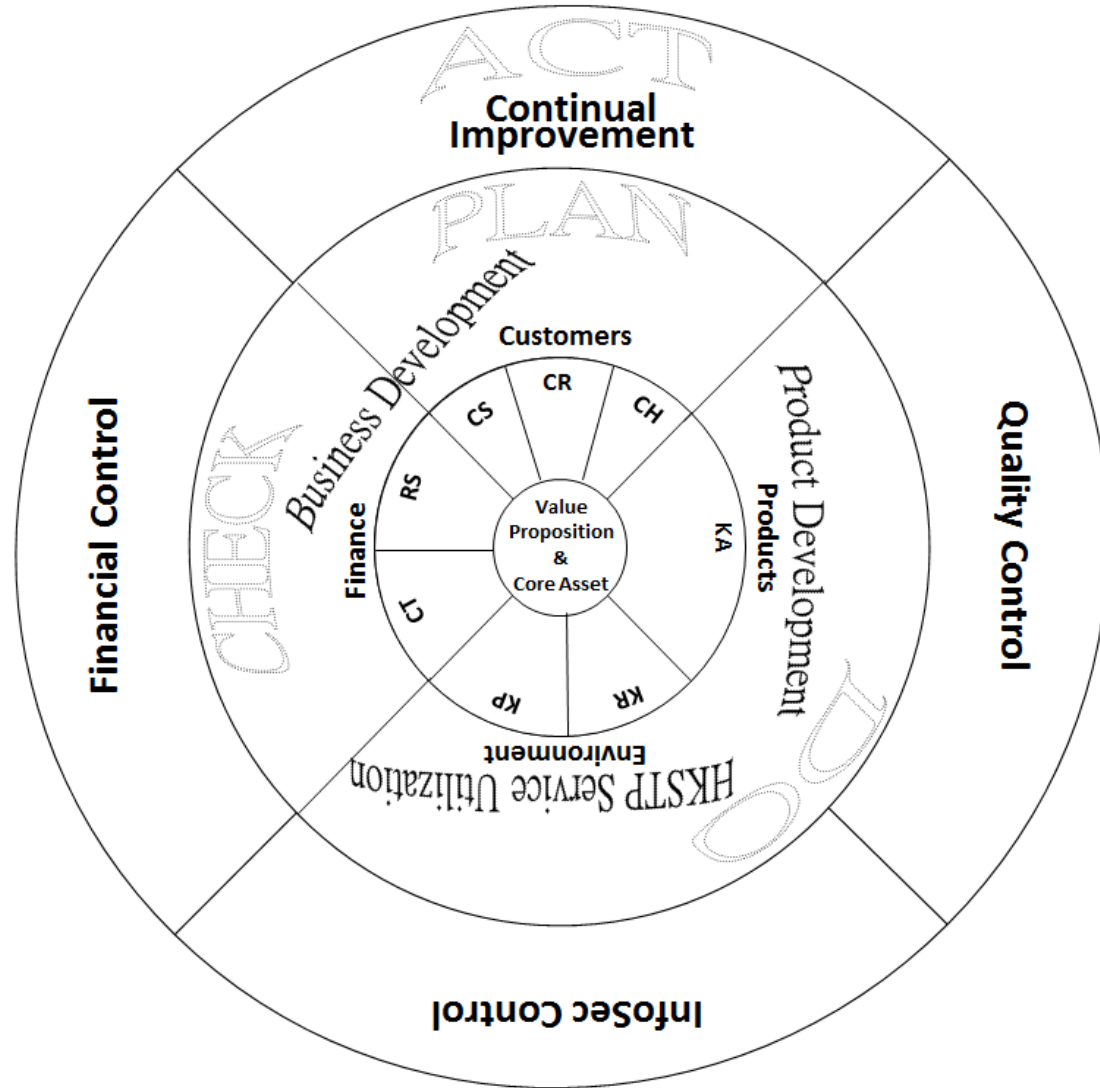**HKSTP**

HKQAA Quality Startup Recognition Scheme – Checklist (Scope)

Three Focus Area	Checklist Topic
Quality Control	1. Customer/ Project Development Requirements
	2. Legal & Regulatory Requirements
	3. Internal Requirements
	4. Design Planning (if applicable)
	5. Design Outputs (if applicable)
	6. Production and Service Provision – Method
	7. Production and Service Provision – HR
	8. Production and Service Provision – Infrastructure & Environment
	9. Production and Service Provision – Materials
Financial Control	10. Authorization Level
	11. Budget
	12. Cash Flow Monitoring
	13. Asset Management
Information Security Control	14. Information Classification
	15. Information Storage
	16. Mobile Device
	17. Information Disposal

HKSTP

Development of Quality Startup Management System (QStarMS) Model (IV)

▶**Difficulties on HKQAA Assessment Checklist for Start-up Company**

- ■ Without systematic model for start-up to implement to achieve these requirements.

- ■ Without a stepwise framework for QStarMS to follow.

- ■ Without guideline for implementation, especially on three key areas control (Product, Finance & InfoSec).

HKSTP

Quality Startup Management System (QStarMS) Model

Conclusion

▶ Start-ups employ Quality Startup Management System (QStarMS) Model and have registration under HKQAA-HKSTP Startup Recognition Scheme:

- business opportunity and management skill level, as well as, survival rate will increase

- overcome the difficulties and limitation for start-ups' business and product development, and to enhance their management skill level

▶ The implementation framework and guideline for start-ups will be further evolved in the future

HKSTP

Stay Tuned.

*Innovation For
A Better World*