Asia Alliance 2019

PolyU's Journey in Digitizing University Research Management

THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

30 Apr 2019

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**Information Technology Services Offices
Hong Kong Polytechnic University**

Opening Minds • Shaping the Future
啟迪思維 • 成就未來

Agenda

❑The Hong Kong Polytechnic University

❑Digital Transformation in PolyU

❑Research Management

❑Project and project

❑Sharing

The Hong Kong Polytechnic University

1937

Government Trade School

1947

Hong Kong Technical College

1972

Hong Kong Polytechnic

1994

The Hong Kong Polytechnic University

PolyU Today

Faculty of Applied Science and Textiles

Faculty of Health and Social Sciences

Faculty of Business

Faculty of Humanities

Faculty of Construction and Environment

School of Design

Faculty of Engineering

School of Hotel and Tourism Management

161 programmes

5,316 staff

28,500 students

390,000+ graduates

PolyU Today

Motto

To learn & to apply, for the benefit of mankind **開物成務 勵學利民**

Vision

Be a leading university that advances and transfers knowledge, and provides the best holistic education for the benefit of Hong Kong, the nation and the world

矢志成爲一所在開拓及轉移知識、提供優質全人教育方面均領先的大學，爲香港、國家及世界作出貢獻。

Mission

To pursue **impactful research** **that benefits the world**

致力富有影響、造福世界的研究

To nurture critical thinkers, effective communicators, innovate problem solvers and socially responsible global citizens

培育敏於思辨、善於溝通、富於創見、精於解難，且勇於承擔社會責任的世界公民

To foster a University community in which all members can excel in their aspirations with a strong sense of belonging and pride
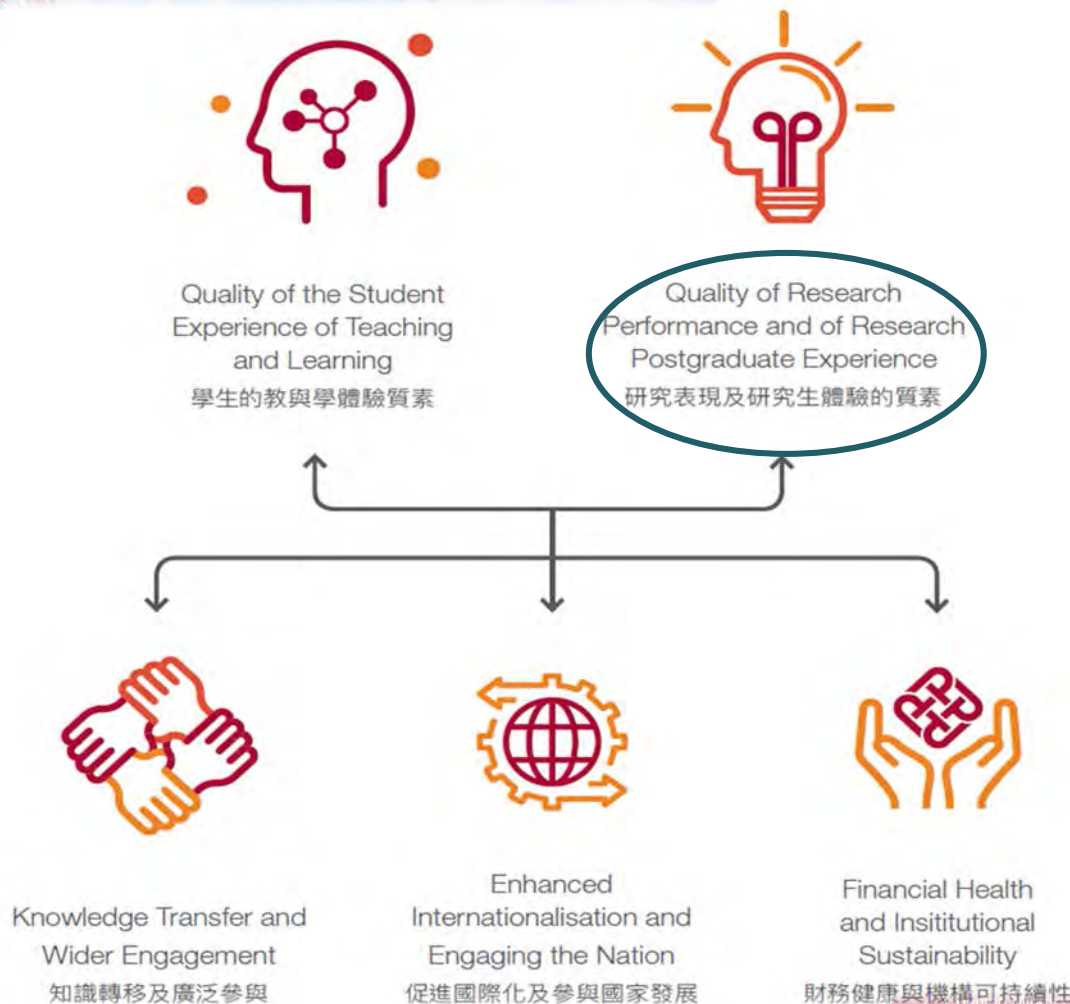
營造讓員生志存高遠、心有歸屬、樂於以大學爲榮的環境

PolyU's Strategic Research Domains

Aerospace

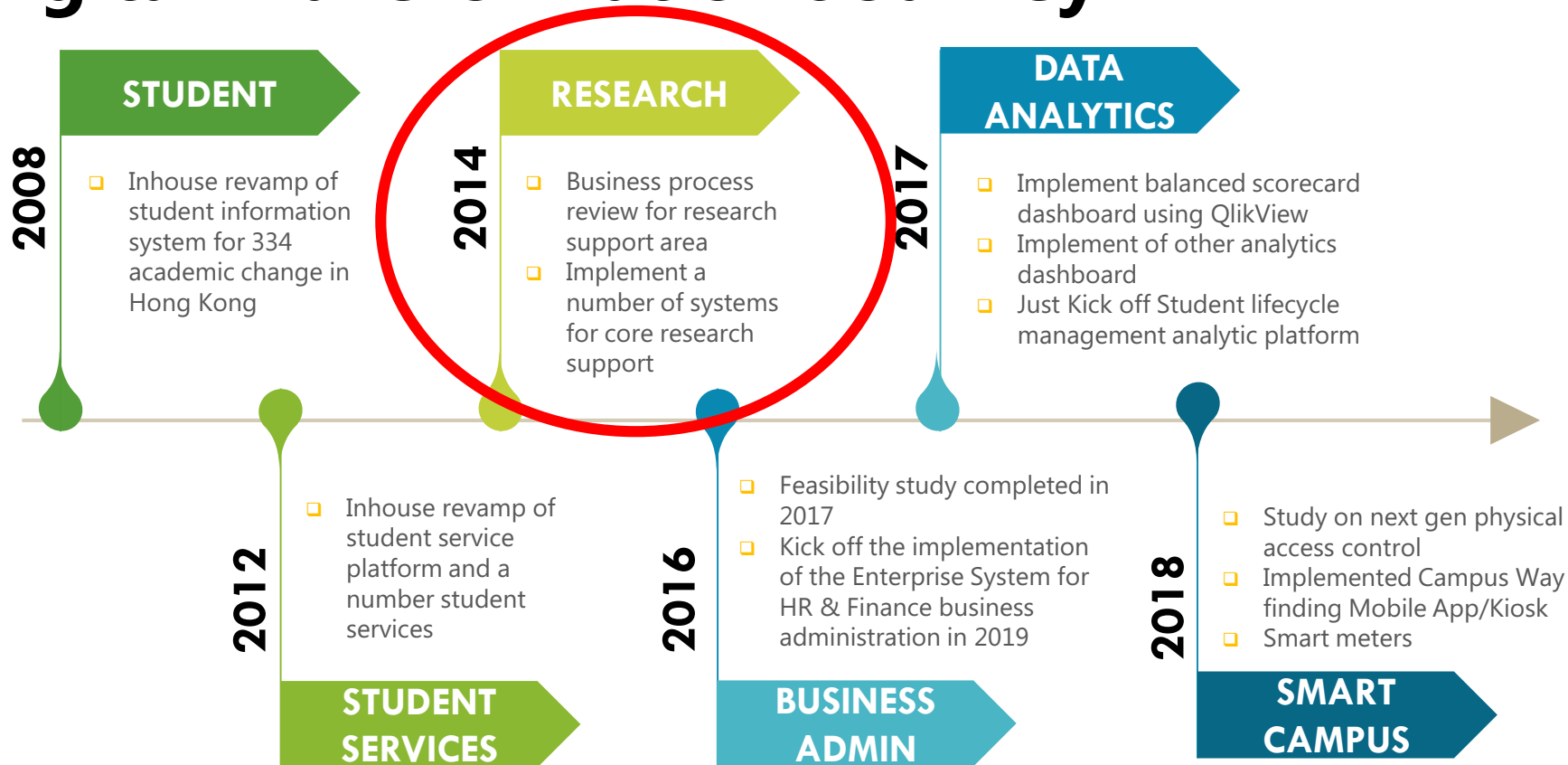Sustainable Development & Smart City

Life Sciences & Biotech

High-speed Rail & Building Structure

Aviation

Food Safety

Internet Communication, Big Data, Cloud Computing and AI

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香港理工大學

Digital Transformation Journey

2008 — STUDENT
- Inhouse revamp of student information system for 334 academic change in Hong Kong

2012 — STUDENT SERVICES
- Inhouse revamp of student service platform and a number student services

2014 — RESEARCH
- Business process review for research support area
- Implement a number of systems for core research support

2016 — BUSINESS ADMIN
- Feasibility study completed in 2017
- Kick off the implementation of the Enterprise System for HR & Finance business administration in 2019

2017 — DATA ANALYTICS
- Implement balanced scorecard dashboard using QlikView
- Implement of other analytics dashboard
- Just Kick off Student lifecycle management analytic platform

2018 — SMART CAMPUS
- Study on next gen physical access control
- Implemented Campus Way finding Mobile App/Kiosk
- Smart meters

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Transformation in Research Management

Research Management

- ❑ Limited support for research-related administration
  - ❑ Research Information System
    - ❑ managing projects and students
    - ❑ implemented 15 years ago using client server technology
  - ❑ Research Output System
    - ❑ web based, for internal and external reporting

- ❑ Managed by information and analytics

- ❑ Compliance requirement for research

- ❑ Visibility of PolyU research to community

- ❑ Increasing demands
  - ❑ source and amount of research funding
  - ❑ no. of research students and projects

Senior Management Initiatives

❑ A holistic business process review for research administration

❑ Vice President of Research Development

❑ Head of Research Office

❑ Director of Information Technology

❑ A business + technical solution -> Future State

❑ Expected to:

❑ bring efficiency and accuracy
  - ❑ standardized, cross-functional, transparent, automated business processes
❑ empower stakeholders
  - ❑ right people do the right things / Roles based model
❑ facilitate research
  - ❑ searching, sharing, cross-silo Collaboration
❑ leverage our assets
  - ❑ Equipment visible, shared and controlled among researchers
❑ enable evidence-based decisions and planning
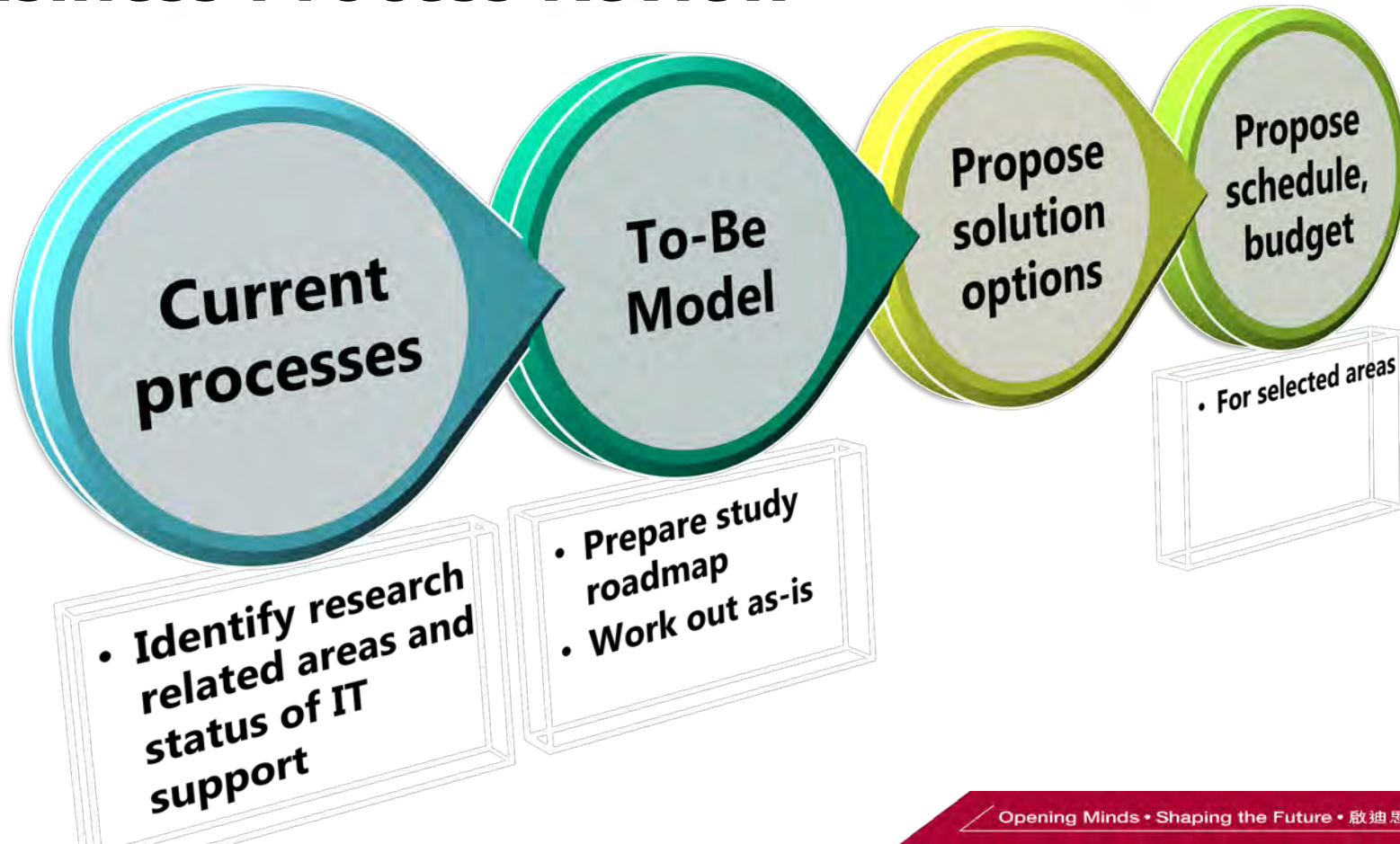 - ❑ make compliance and monitoring easy

Research Transformation

Business Process Review

Business Process Review

Current processes
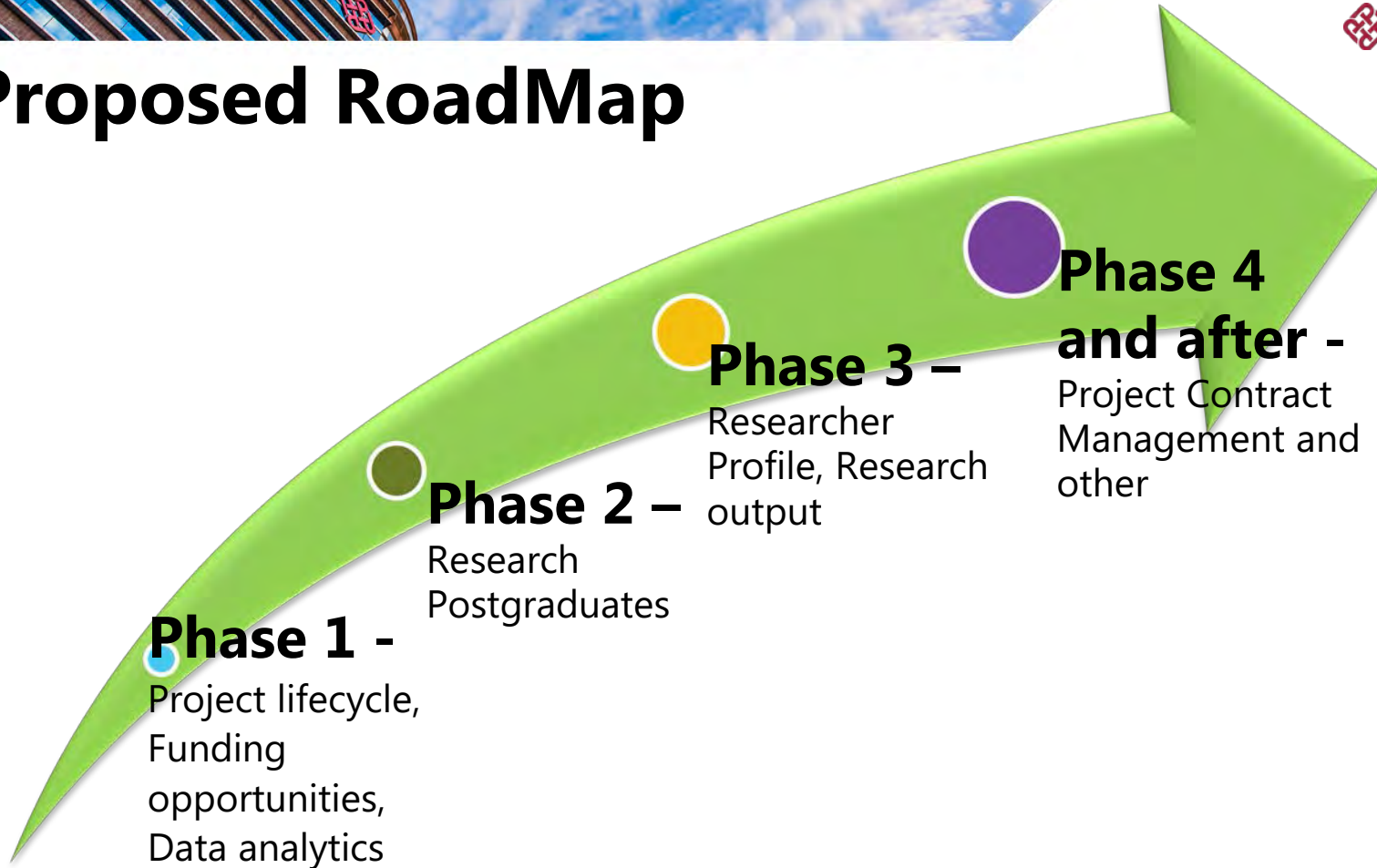- Identify research related areas and status of IT support

To-Be Model
- Prepare study roadmap
- Work out as-is

Propose solution options

Propose schedule, budget
- For selected areas

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Research Related Areas Identified

Priority Areas

Proposed RoadMap

Phase 1 -
Project lifecycle,
Funding
opportunities,
Data analytics

Phase 2 –
Research
Postgraduates

Phase 3 –
Researcher
Profile, Research
output

**Phase 4
and after -**
Project Contract
Management and
other

BPR – Research project life cycle

Oct 2014

- ❖ Worked out holistic views of PolyU Research
  - Business view,
  - Process view

Nov 2014 – Feb 2015

- ❖ Interviewed researchers
- ❖ Interviewed stakeholders
- ❖ Conducted 16 BPR workshops with Research Office, Finance Office, Human Resource Office

01 **02** **03** **04**

Mar 2015

- ❖ Completed TO-BE process models for Research project management and funding opportunity
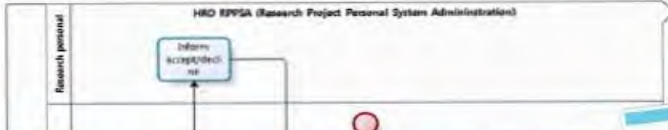
Mar 2015 – Q4 2015

- ❖ Sourced solutions

Workshops

Research workshop (20141210).docx   29 December 2014

Process Re-engineering Workshop – AS-IS & TO-BE "Project in Progress - HR Closing"

Workshop date/venue – 10-Dec-2014 9:30am Z407

1. **Agenda**

   Define AS-IS & TO-BE Project Change process models

2. **Notes**

   AS-IS HR Process

   a) Existing HR acceptance of offer process

Ground Rules I

- All participants are equal
- One person speaks at a time
- Silence means consent
- Listen to what other people are saying

Ground Rules II

- Respect each other
- Be on time coming back from breaks
- Consider all possibilities
- Start on time

Business Process Modelling

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Senior Management Support

❑ Approved budget for Phase 1 in 2016

❑ Started off project for implementing a projects and grants management system

❑ In 2016, Management decided to use the Student Information System (SIS) for taught programmes to handle research postgraduates, transfer project started off

❑ In 2017, started off procurement and implementation for a centralized research information management platform

Project and Project

Timeline

	2014	2015	2016	2017	2018	2019	2020
Projects & Grants Management		BPR	Solution sourcing	Tender		Funding	Projects
Transfer RPg Students Administration				Gap analysis	Implementation		Students
Open Platform for University Scholars			Researcher Profile		Implementation	Implementation (phase 2)	Mgt info & Decision Support / Products
Intellectual Property Management	Tender	Implementation					
Animal Subjects Ethics Application		Implementation				Governance & Compliance	
Application for Research Safety Approval					Implementation		
University Data Platform						Implementation	

Implementation in progress/completed

Projects and Grants

PGMS

☐ Outsourced development

☐ Oracle DB, WebSphere

☐ Workflow engine

Research Information Management

OPUS

☐ Cloud package: Pure of Elsevier

☐ Microsoft Azure

☐ Pure wiki, Microsoft TEAMS for collaboration

Research Postgraduate Admin

SIS & RSF ✓

☐ Move to an existing SIS with enhancement

☐ Decentralised admin to academic departments

☐ Oracle DB, WebSphere

Intellectual Property

IPMS ✓

☐ On premise package: Memotech of CPAGlobal

☐ Oracle DB

Compliance to animals ethics

ASESC ✓

☐ In-house development

☐ Oracle DB

☐ Workflow engine

Compliance to Safety

ARSA ✓

☐ In-house development

☐ Oracle DB

☐ Workflow engine

OPUS –
a centralised research information management platform

Open **P**latform for **U**niversity **S**cholars (OPUS)

Objectives

Implement a centralized information platform for managing information and conducting analysis of research activities at individual, departmental, and institutional levels

Support institutional reviews of strategies related to research development and activities, policy and support services provided to research for forward planning

Streamline business processes in supporting and showcasing research activities in PolyU

OPUS Features

Interconnected data
- Persons, organization units, projects, activities, research outputs, prizes, media mentions, metrices

Reduce data proliferation and centralize information management

Integrating platforms
- Integration with internal and external systems such as CHRIS, SciVal, Scopus, ORCiD etc

Automate data extraction and rigorous validation

Profiles management
- Researcher profiles managed by researchers themselves

Comprehensive, flexible, and always-available

Reporting
- Dashboards, reports at researcher, department, faculty and institutional levels, and standardized CVs
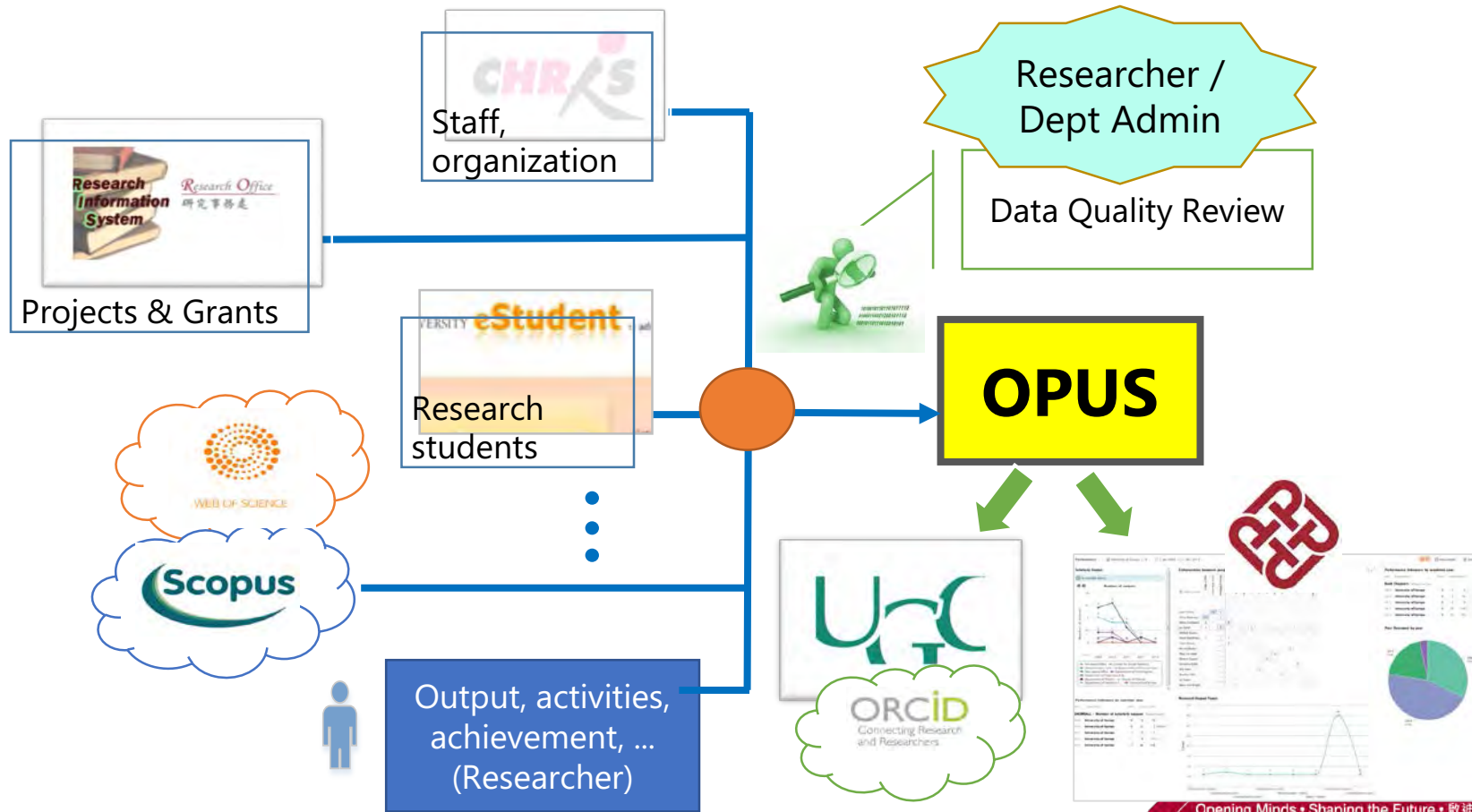
Dynamic, always up-to-date reporting for unique requirements

Pure Portal
- Showcase achievements and resources, promote researchers, and explore collaboration

A unified, outward facing hub to showcase activities and resources

Envisioned research activities with OPUS

OPUS – Pure Portal

Research Output

1990 .. ..ıllı 2018

| 4398 Citations | 35 h-Index | 200 Journal article | 16 Literature review | 2 Conference article | 1 Review article |

A comparison of laboratory, clinical, and self-report measures of prospective memo... healthy adults and individuals with brain injury

Raskin, S. A., Shum, H. K. D., Ellis, J., Pereira, A. & Mills, G., 28 May 2018, In : Journal of Clinical and Experimental Neuropsychology. 40, 5, p. 423-436 14 p.

Research output: Journal publication › Journal article › Academic research › peer-review

⦿PLUMx

Usage
Downloads: **27**
Abstract Views: **3**

Captures
Readers: **8**

Social Media
Tweets: **2**

see details

1

An attempt at revisiting the factor structure of the Dysexecutive Questionnaire in the Chinese setting

Yang, Z-Y., Sun, S-F., Lui, S. S. Y., Shi, H-S., Xie, D-J., Xie, W-L., Wang, Y., Cheung, E. F. C., Shum, H. K. D. & Chan, R. C. K., 1 Mar 2018, In : PsyCh Journal. 7, 1, p. 25-30 6 p.

Research output: Journal publication › Journal article › Academic research › peer-review

Metrics always updated

Changes in neural activation underlying attention processing of e... following treatment with positive search training in anxious child...

Waters, A. M., Cao, Y., Kershaw, R., Kerbler, G. M., Shum, H. K. D., Zimmer-Gembeck, M. J., Craske, M. G., Bradley, B. P., Mogg, K., Pine, D. S. & Cunnington, R., 1 Apr 2018, In : Journal of Anxiety Disorders. 55, p. 22-30 9 p.

Research output: Journal publication › Journal article › Academic research › peer-review

1 Citations (Scopus)

1

PGMS – projects & grants management system

Projects & **G**rants **M**anagement **S**ystem (PGMS)

Objectives

Strengthen governance and ensure compliance

Distribute timely and appropriate information to researchers

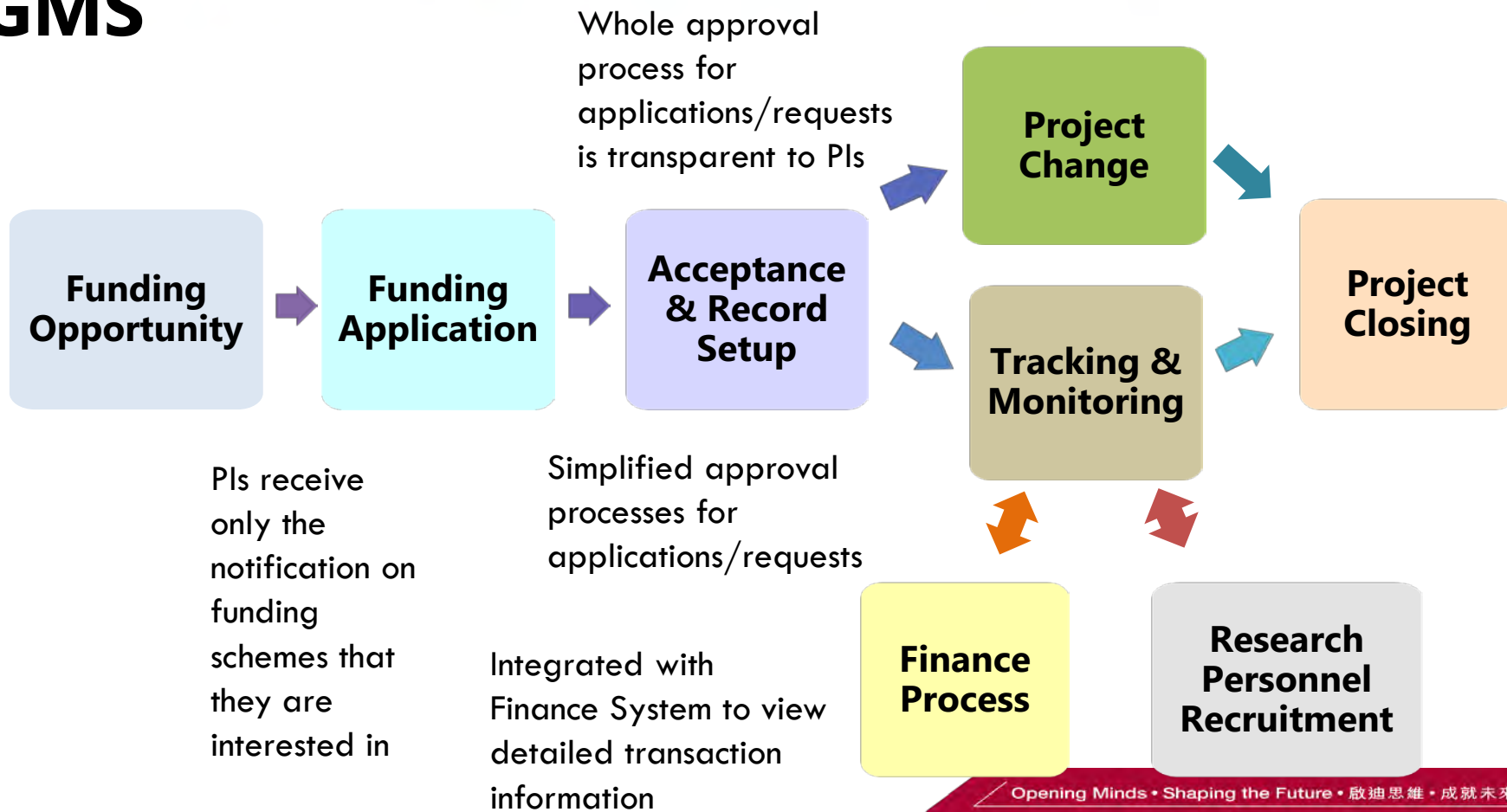Simplify application and reporting processes for researchers

Improve accuracy and efficiency and standardize practice

Decentralize operations to departments, allowing self-service

PGMS

Whole approval process for applications/requests is transparent to PIs

Funding Opportunity → **Funding Application** → **Acceptance & Record Setup**

Project Change → **Project Closing**

Tracking & Monitoring

PIs receive only the notification on funding schemes that they are interested in

Simplified approval processes for applications/requests

Integrated with Finance System to view detailed transaction information

Finance Process

Research Personnel Recruitment

PGMS

Search Funding Opportunity

Home / Search Funding Opportunity

pgro012

Home
Funding Opportunity
Funding Application
Project Record
System
Notification
User Maintenance

3

Funding Scheme

3 funding scheme to be complete

Funding

130
120
110
100
90
80
70
60
50
40
30
20
10
0
Jan 01

Project Record - New Project

Home / Project Record - New Project

pgro012

Project ID	To be generated	Project Status	Draft
Associated Application ID	N/A	Parent/Child Project Indicator	N/A
Funding Body Ref. No:		Parent/Child Project ID	N/A
Collaborative Research	⦿ Yes ○ No	Record Setup Date	📅 4 Apr 2019
Engaged By PolyU SZRI	○ Yes ⦿ No		

Project Title

English Version

B I U ▤ S̶ X² X₂ 13▾ A ▾ ☰ ☰▾ T!▾

Chinese Version

B I U ▤ S̶ X² X₂ 13▾ A ▾ ☰ ☰▾ T!▾

Official Language Indicator   ○ English   ○ Chinese

Create a project record

Back   Create as Draft
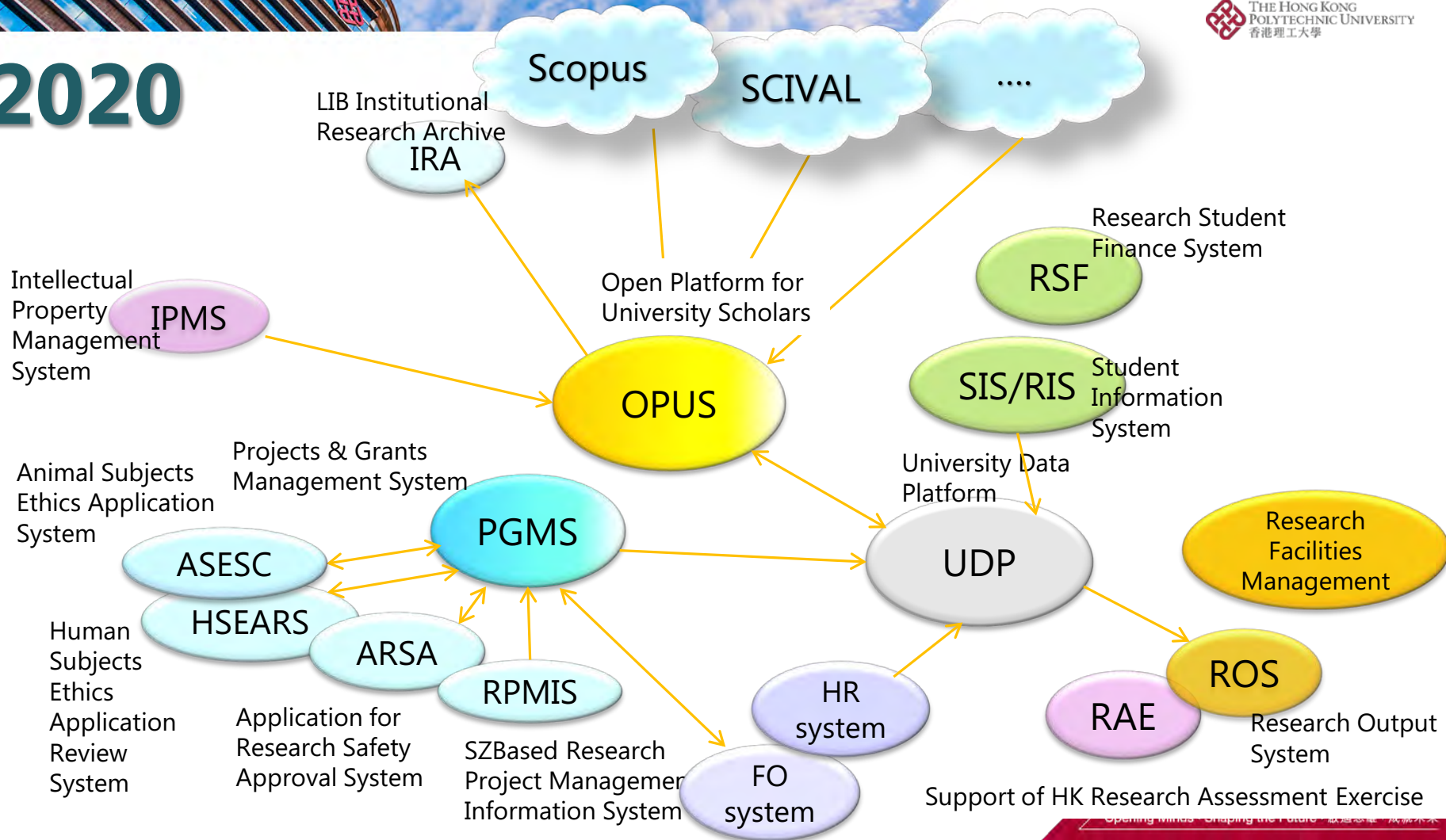
Latest Status

Ultimate Research Management Services

Research Management

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Major challenges

❑ Difficulties in engaging many stakeholders

❑ Lesson from BPR

❑ Solution approach

❑ Parallel projects

Thank You!