6. Next Steps

O-Pulse is currently in private beta, adding additional integrations and product features while collecting user feedback, with a phased release scheduled over the coming months.

O-Pulse is planning to continually grow the platform, with a number of significant product extensions scheduled in the post-release roadmap. The focus for v2 is on integrating portfolio aggregation and reporting, progressing towards creating a true "one-stop" dashboard for investment advisors.

13) NOR AZLINAYATI ABDUL MANAF

KRSTE.my: Using Linked Data and semantic search to build a one stop knowledgebase of Science and Technology R&D in Malaysia

1. About the Case Organization

The Malaysian Science and Technology Information Centre (MASTIC) was established in 1992. MASTIC is a division under Ministry of Science, Technology and Innovation Malaysia (MOSTI) located in the Federal Government Administrative Centre Putrajaya, Malaysia. MASTIC is responsible to provide reliable, up-to-date and comprehensive science, technology and innovation (STI) information through efficient information management system.

2. About the Challenge

- KRSTE.my should be a knowledge management system, a hub for R&D in the domain of Science, Technology and Innovation in Malaysia.
- KRSTE.my Portal should serve as a Single Point of Access to the wealth of knowledge artefacts from various internal and external systems sources.
- KRSTE.my should organise the nation's research knowledge : collect all research results, funding, researchers, etc, in a national repository and classify them according to MRDCS (Malaysian R&D Classification System)
- KRSTE.my inventory nation's research capability : Develop a national inventory of research capability (competence) of researchers and institutions
- KRSTE.my instrument for effective research policy : Provide overall view of funding, research areas and accomplishment for policy making on innovation
- KRSTE.my should turn information silos into an integrated knowledge resource

3. What We Did

KRSTE.my leverages on the power of Semantic Web Technology through the use of ontologies and structured knowledge bases, Linked Open Data (LOD) and knowledge graphs, graph search and graph databases. KRSTE.my is a collaborative tools:

- to manage Science, Technology & Innovations project implementation
- reduce project redundancy
- preserving institutional to avoid "reinventing the wheel"

Innovations about this effort are:

- Ability to perform Semantic Search based on concepts rather than keywords.
- Ability to perform question answering using natural language.
- Ability to perform Researcher Profile Analytics using the existing data in the knowledge base, such as analysis on Researcher Collaborations, Experts Identification and Researcher Conflict of Interest.
- Provides user access to published knowledge base in the form of open linked data which goes beyond KRSTE.my knowledge base by linking KRSTE.my users to other publicly available knowledge repositories in the world within the Open Linked Data Cloud

4. Challenges and Lessons Learned

Challenges:

- Increase researcher registration and participation
- Continuous updating information from the researchers

During development of KRSTE.my, around 93 organizations were engaged to enquire relevant source of information on R&D activities in Malaysia. The information provider comprised of:

- Universities and other Institute of Higher Learning;

- Government Agencies including Research Institutes;
- Private Companies; and
- NGOs

MASTIC is always working on novel ways to promote KRSTE.my especially among the researchers in Malaysia through seminars and workshops.

5. Impact and Benefits

Impacts:-

- Availability of strategic and reliable S&T Info that provide informed decision by policy makers;
- Enable networking, collaboration among knowledge workers;
- Repackaging of information for specific needs that can reduce search time for information and learning material;
- Online streaming of information which offers real time information from source
- Context based search which reduce search time; more accurate search to meet with specific work needs;

Benefits:-

- Policymakers and Planners (Public & Private Sectors) - better decision making and projecting future venture.
- Business community (Venture Capitals, Entrepreneurs, SMEs) - product and services innovations.
- Research community (Education & Industry) – research extensions and product and services innovations.
- Education community (Private & Public Institutions) – research extensions.
- Individuals interested in S&T and R&D particular on indigenous knowledge in S&T and R&D

6. Next Steps

MASTIC is currently working on several ways to promote KRSTE.my especially among the researchers in Malaysia. Some of the main MASTIC initiatives are:

- KRSTE portal can be accessed through Institutional of Higher Learning, Government Agencies, Library and other relevant organization website & portal;
- Continuous engagement with relevant organisations and other potential information provider through various meetings, discussions and forums;
- Organise road shows involving relevant organisations and researchers to get information on KRSTE.my as well to capture updated information on R&D activities; and
- Taking part in many of its Ministry events organised by cluster agencies as a platform to promote KSTRE.my to the public especially researchers.

14) MARK GARLINGHOUSE

Integrating internal and external knowledge sources to accelerate innovation in an R&D function for a food and beverage manufacturer

1. About the Case Organization

A Fortune 500 food and beverage manufacturer with a team of about 1000 R&D professionals based in 12 facilities around the world restructured their R&D capability as a consequence of a global re-organization. One of several conclusions reached as a result of a review R&D capabilities was that the R&D repository and R&D content assets were woefully underutilized. The organization was centralizing the R&D capability in order to better coordinate global research activity

2. About the Challenge

The client desired to deliver better R&D outcomes in the following ways:

- provide better access to existing R&D content and avoid duplicate research
- provide consistent access to content sets representing both internal and external sources: past R&D results, authoritative content (both proprietary and open source including patent data, scientific journal literature, standards and regulatory information), and partner content where available
- provide more effective search results to both information professionals as well as lay searchers

The client had an existing R&D repository with high quality content that was difficult to retrieve. It was where "good research was left to fade away." Each R&D facility made their own decisions about licensed information resources and data structure leading to inconsistency, extra expense, and difficulty sharing across businesses.

KRSTE.my: Using Linked Data and Semantic Search to Build One Stop Knowledgebase on Science & Technology R&D in Malaysia

Nor Azlinayati Abdul Manaf

MIMOS Berhad, Malaysia

IKO Conference 2015, Singapore

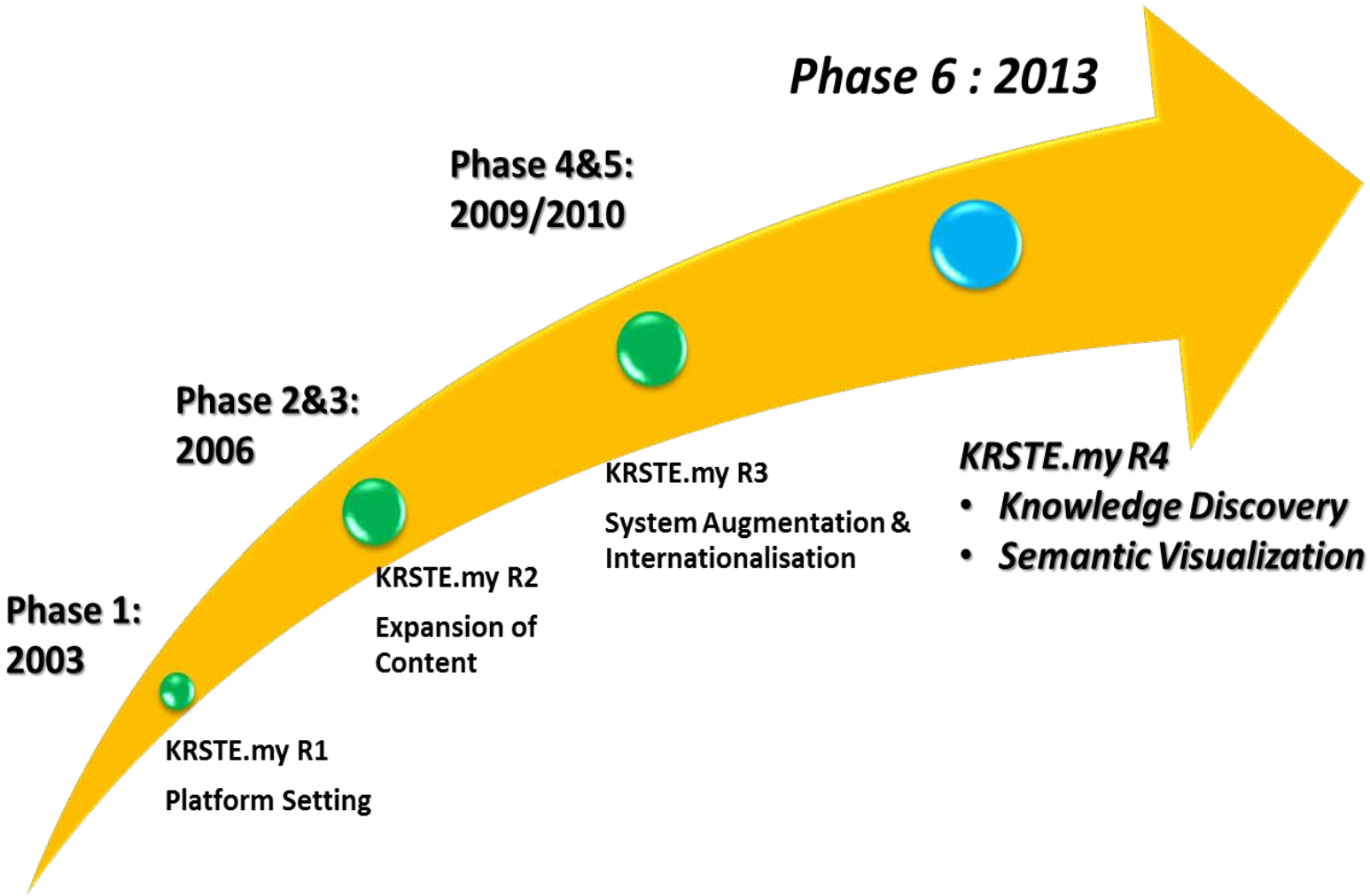
Knowledge Resources for Science and Technology Excellence, Malaysia

PROJECT BACKGROUND

- KRSTE.my is an initiative by Malaysia Science & Technology Information Center (MASTIC) of MOSTI
- crystallized from MOSTI's ICT Strategic Plan (ISP) report findings
- Development of KRSTE.my spreads over several phases since 2003
- It has won the Bronze Award (3rd place) in the Outstanding Knowledge Management (KM) Project Award 2011[1]

[1]International event organised by the Hong Kong Polytechnic University and the Knowledge Management Research Centre

KRSTE.my ROADMAP



OBJECTIVE

- to develop a national KNOWLEDGE-BASED system for Science, Technology and Innovation (STI) information and Research & Development (R&D) activities

- to become a national R&D Databank and serves as a SINGLE POINT of ACCESS to the country's STI information and R&D activities

RATIONAL FOR KRSTE

- To address information silos for STI and R&D data.

- To support STI communities' increased demand for capacity building in the R&D Management value-chain within the domain of :
  - •knowledge management,
  - •collaboration and
  - •knowledge sharing and learning

- To establish a platform for the development of the STI National R&D Databank

What Does KRSTE.my Do?

ORGANISE

- We **ORGANISE** nation's research knowledge
- Collect all research results, funding, researchers, etc, in a national repository and classify them according to MRDCS

INVENTORY

- We **INVENTORY** nation's research capability
- Develop a national inventory of research capability (competence) of researchers and institutions

INSTRUMENT

- We **INSTRUMENT** for effective research policy
- Provide overall view of funding, research areas and accomplishment for policy making on innovation

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An Integrated STI National R&D Databank

A platform for informed decision making on STI

- Who can I collaborate with?
- Who can be the independent reviewers for this proposal?
- What are related works in this research area?
- Who are the main players in this technology?
- What are the outputs produced from the grants so far?
- Where can I get funding for this type of research?
- Where can I access equipment or labs for this research?

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Significant to various players of the R,D&C value chain

RESEARCH **DEVELOPMENT** **COMMERCIALISATION**

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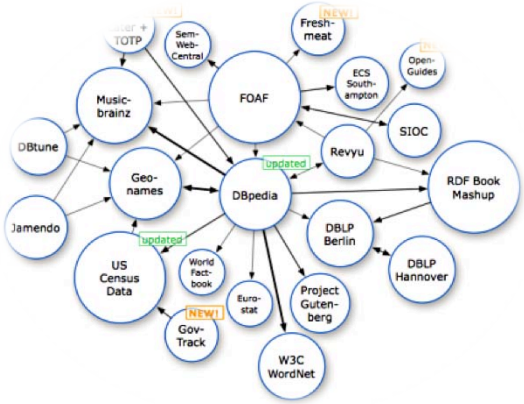
Leverages on the power of Mashup, Semantic and the Internet

KNOWLEDGE ACQUISITION

KNOWLEDGE RELATIONSHIP



KNOWLEDGE PRESENTATION

Structured Natural Language Processing

Semantic Search

Semantic Browser

Decision Support Dashboard

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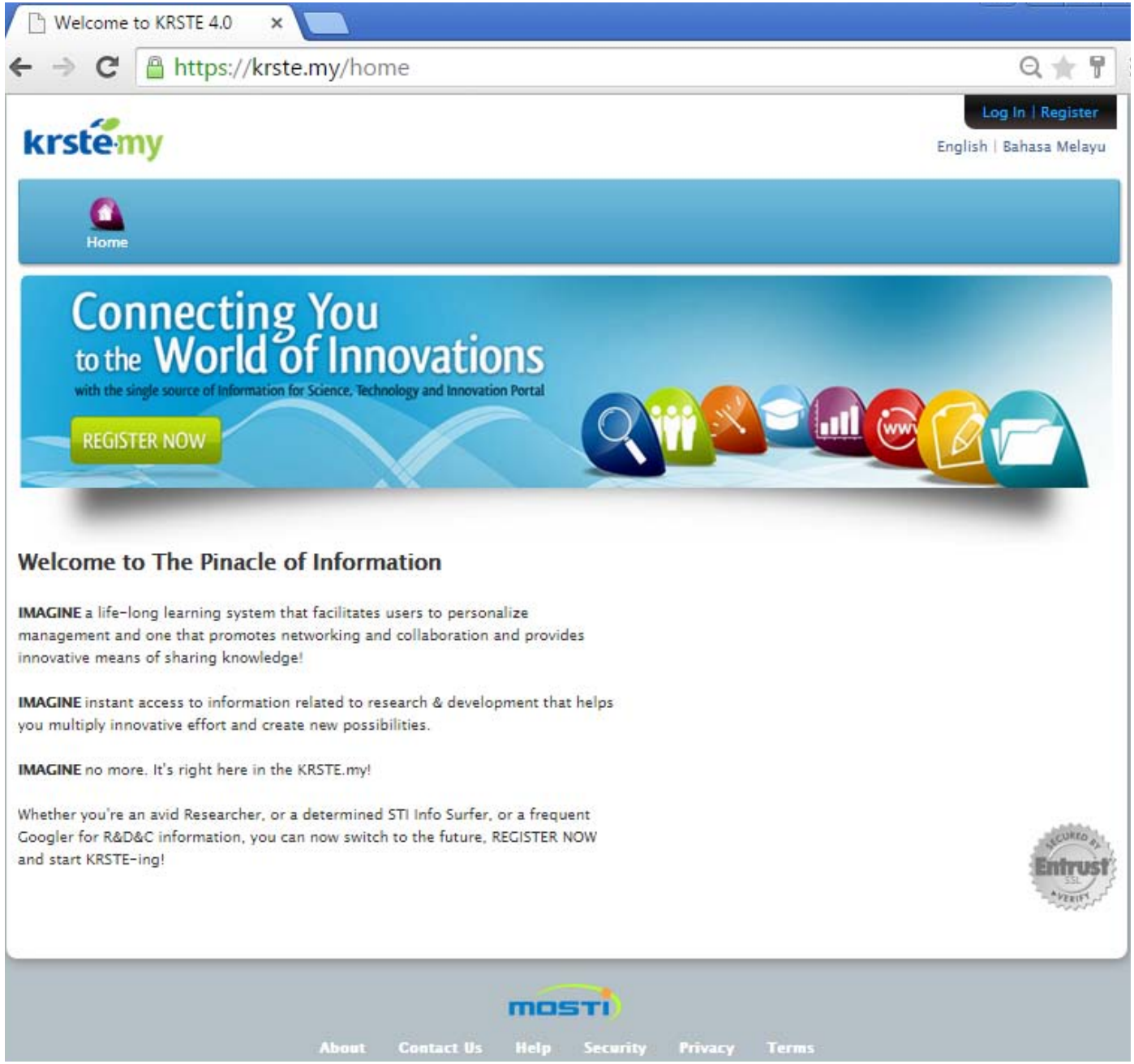

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MASTIC
MALAYSIAN SCIENCE & TECHNOLOGY INFORMATION CENTER

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Thank You

Log On to : http://krste.my