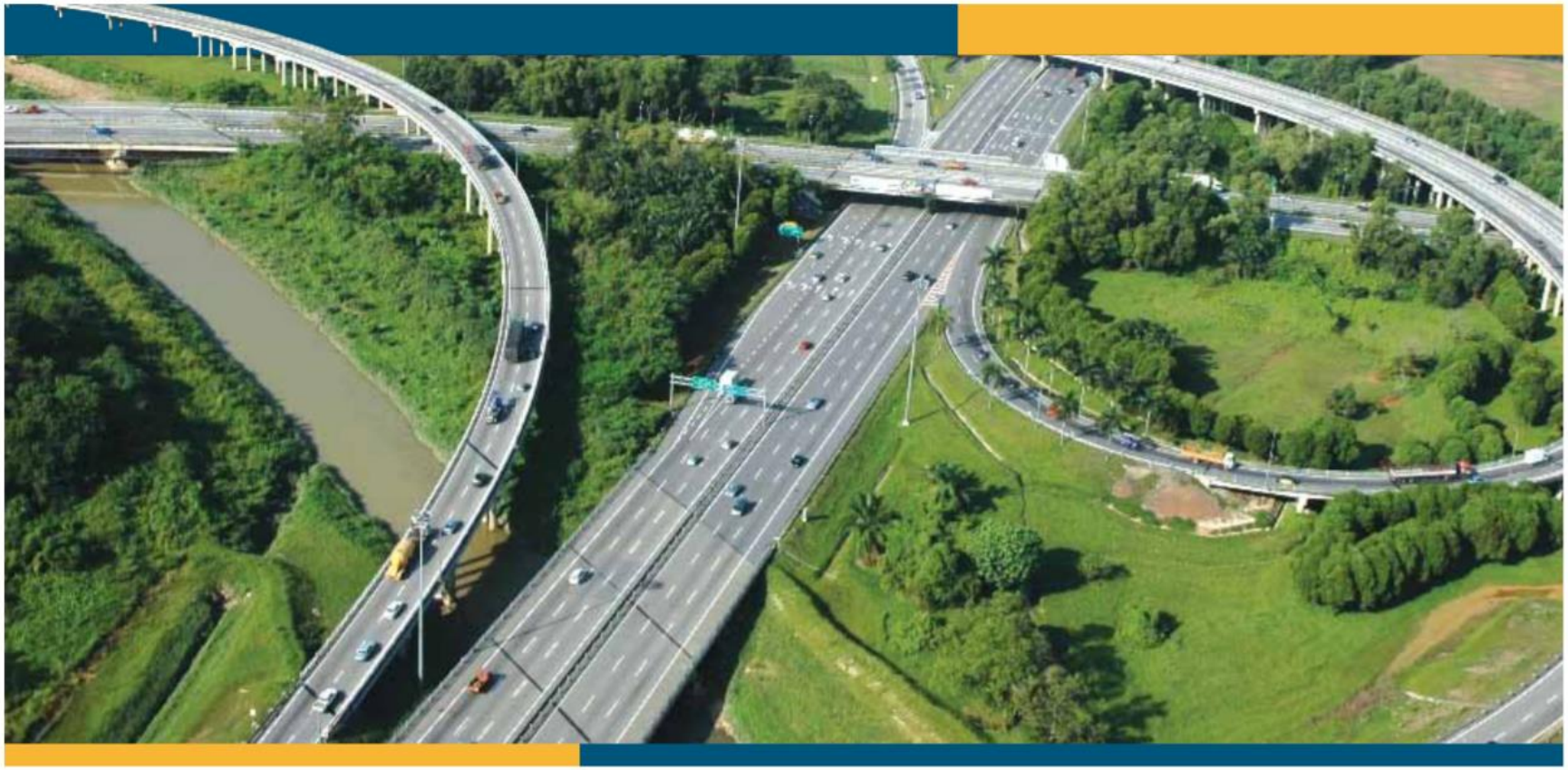
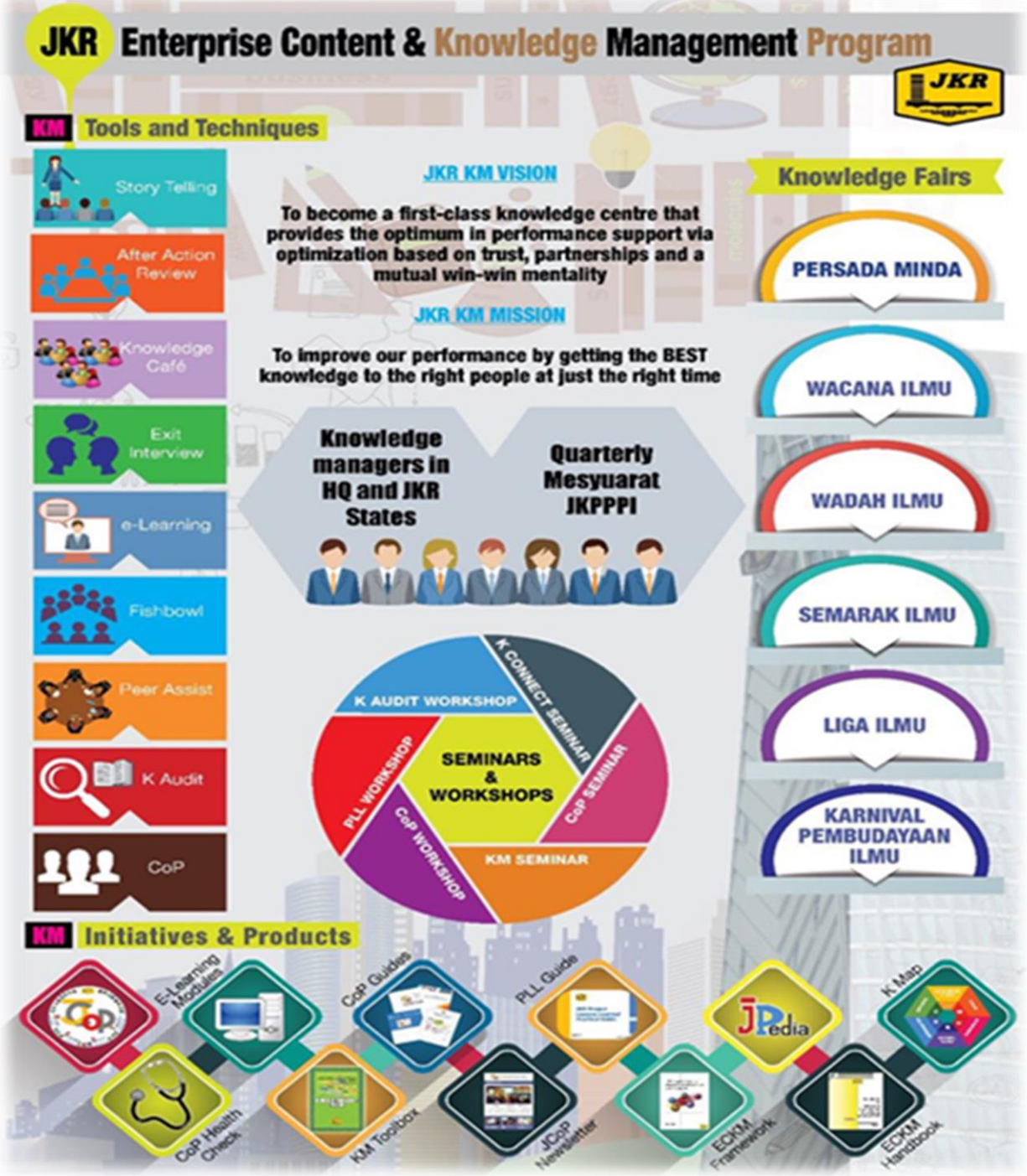


Managing Knowledge in a Project Environment

KM TALK @ CAWANGAN JALAN

Sr Dr Khairil Hizar Md Khuzaimah, 10/08/2017



Our KM Implementation at Organisational Level

What I will cover

- Why ECKM matters to us
- Our knowledge Assets
- JKR KM Agenda & Journey
- ECKM Products
- The Way Forward

KM is a KEY component in JKR Strategic Framework 2016-2020

OUTSTANDING **PROJECT DELIVERY**

CO-CREATIVE **CUSTOMER EXPERIENCE**

CENTRE OF **TECHNICAL EXCELLENCE**

LEADING **SUSTAINABILITY**

INNOVATIVE *ORGANIZATION*

KM Initiatives

T1.3 Develop PM Competency

- JCoP as platform for sharing knowledge
- Lessons Learned documentation

T2.3 Develop Customer Centric Workforce

- Knowledge Sharing competency development

T3.4 Identity and Develop Experts

- SME Profile Page

T4.4 Develop Sustainable Champion

- WikiGreen and WikiTAM in Jpedia

T5.3 Enrich Organisational Knowledge Base
&
T5.4 Develop Innovative Centric Workforce

- Enhance ECKM,, Governance, e-Learning, CoP Sustenance,

KM JOURNEY IN JKR FROM 2008 - 2016

2008 — Create The Buzz

- **June - Dec**
  ECKM Briefing to ECKM team; Introduction to KM course for ECKM team; ECKM Handbook

2009 — Quick Wins to Get Buy In

- **Jan - June**
  Talks; KM workshops
- **Jul - Dec**
  Pilot online knowledge repository (e-PSMG); Developed ECKM Framework; ECKM Roadmap and Taxonomy

2010 — Getting Others Involved

- **Jan - June**
  Set up J/K Pelaksanaan dan Pemantauan Pembudayaan Ilmu & Appoint Knowledge Managers; K-Visits; Knowledge Audit CKUB
- **Jul - Dec**
  Launched e-PSMG; Briefing at Mesyuarat Pengarah-pengarah and Mesyuarat Jurutera Daerah; Avillon Knowledge Café; Karnival Pembudayaan Ilmu

2011 — Sell, Sell, Sell

- **Jan - June**
  Workshops to enhance e-PSMG content; ECKM Roadshows; Present Papers at International Conferences; K-Visits; K managers meeting
- **Jul - Dec**
  KM Readiness Assessment; Genting Knowledge Café

2012 — More Initiatives

- **Jan - June**
  KM Seminar for top management; JPedia Lessons Learned Process; J-10 Requirements Specs for ECKM Initiatives, Sepang Knowledge Café
- **Jul - Dec**
  Content management governance; KM Training; KM Seminar for J48 and above; Semarak Ilmu

2013 — Retaining & Transferring Tacit Knowledge

- **Feb - June**
  Cultivate CoPs; JPedia Roadshows; UPNM Lessons Learned Workshop; Story telling Workshop; K-Visits; K managers meeting; Gambang knowledge Café
- **Jul - Dec**
  JCoP portal; Wadah Ilmu; CoP Launching and Seminar; Exit interview

2014 — Inculcating Knowledge Sharing Culture

- **Jan - June**
  JPedia & JCoP Roadshows A'Famosa Knowledge Café K-Visits, K-Managers Meeting HKL Project Lessons Learned Workshop; SUKMA Project Lessons Learned Workshop; Exit interviews
- **Jul - Dec**
  Workshops on Sustaining CoPs Wacana Ilmu; JCoP v.2; JCoP survey

2015 — Communicate and Collaborate

- **Jan - June**
  JCoP Newsletter; Seminar CoP for Top Management; Publish CoP guides; K-Visit; Penang K-Café; K managers meeting; JCoP Roadshows; Exit Interviews, JCoP Moderators Workshop; KM Prog. for cadre officers; JCoP day
- **Jul - Dec**
  Persada Minda; JPedia workshop

2016 — Shared Learnings

- **Jan - June**
  PLL Workshops
  PLL Guide
  K-Connect Seminar
  CoP Health Check
- **Jul - Dec**
  JCoP / JPEDIA Roadshow
  KM Audit
  Persada Minda
  Seminar CoP JKR

ECKM Office Team

Pengarah Kanan [JUSA B]
Cawangan Perancangan Aset Bersepadu (CPAB)

Pengarah [JUSA C]
Bahagian Pengurusan Projek Kompleks
(BPPK)

Ketua Pen. Pgrh. Kanan [J54]
Bahagian Penyelarasan & Khidmat Sokongan
(BPKS)

Pengarah [JUSA C]
Bahagian Perundingan Pengurusan Aset
(BPPA)

- Unit Perlaksanaan Dasar Pengurusan Program & Projek
- Unit Pengurusan Prestasi Projek
- Unit Amalan Terbaik
- Unit Pengurusan Nilai
- Unit Sistem & Kompetensi Pengurusan Projek
- **Unit ECKM**
- Unit BIM

- Unit Pengurusan Aset Kerajaan
- Unit Perunding Pengurusan Aset
- Unit Perunding Teknikal Aset
- Unit Pembangunan Kapasiti & Transformasi
- Unit Pengurusan Fasiliti JKR / Unit Pengurusan Aset Negeri

THE ECKM TEAM IN CPAB

Sr. Roznita Othman
Pengarah Kejuruteraan (Komunikasi)
Juruukur Bahan

- J48 (JUB) **Sr. Dr. Khairil Hizar Md. Khuzaimah**
- J41 (Awam) **Norparzila Abd. Ghaffar**
- J41 (Awam) **Khairunnisa Mohd Hairuddin**
- J29 (Awam) **Safira Aiza Ahmad**

The KM Agenda

*To cultivate **knowledge sharing and learning culture** across department through the use of proven **effective knowledge sharing tools***

MAJOR KM INITIATIVES (since 2008)

1. **JPedia**, an online repository to share knowledge-in-context)
2. **Communities of Practice** to share domains of knowledge
3. **JCoP**, an online platform to ask and discuss
4. **Project Lessons Learned System** to share key project learnings
5. **KM Toolbox,** set of tools and techniques to capture and share insights and ideas
6. **JKR Yellow Pages** to locate experts within the department
7. **E-Learning** to provide 24 x 7 learning environment

JKR Knowledge Transfer Strategies and Initiatives

Personalisation Strategy

Uses technology to provid
information of "
what?"
means.

Connecting People to People

- Communities of Practice
- JCoP
- JKR Yellow Pages

Codification Strategy

Detaches knowledge f
knowledge b
artic
dge
b
plicit.

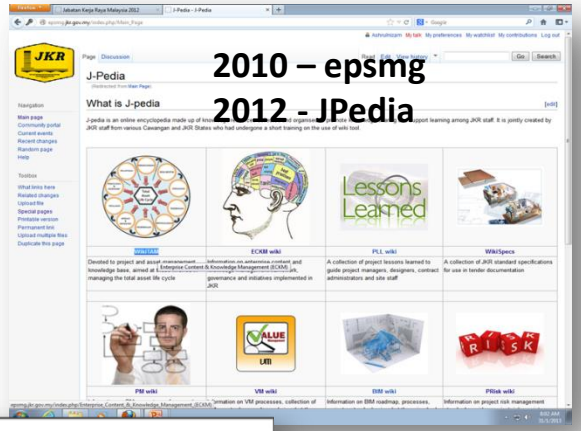
Connecting People to Content

- JPedia
- E-Learning
- Project Lessons Learned

ECKM products

2009

2010 – epsmg
2012 - JPedia

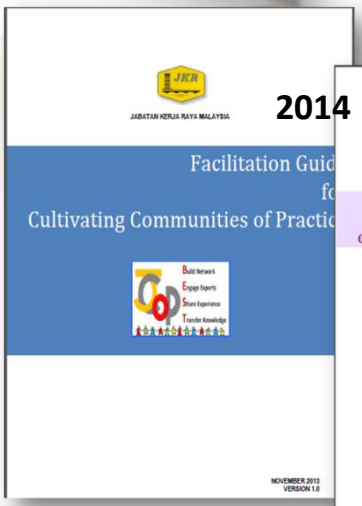


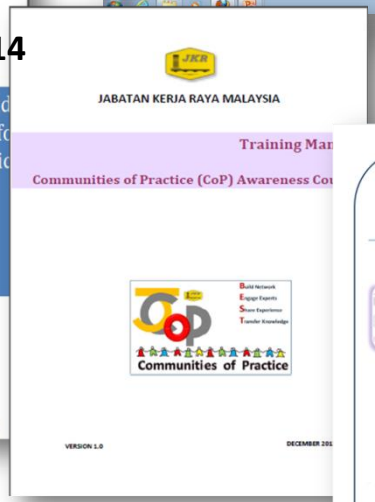
2013

2011 – KM readiness assessment

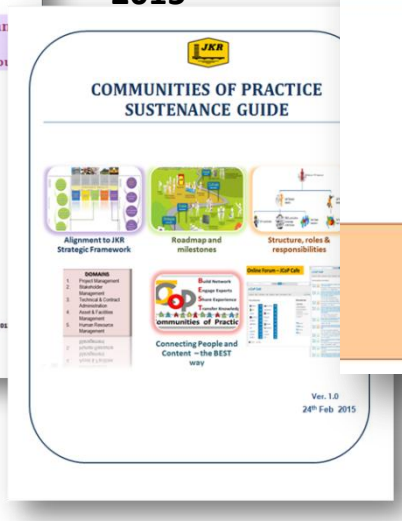
2013

2014



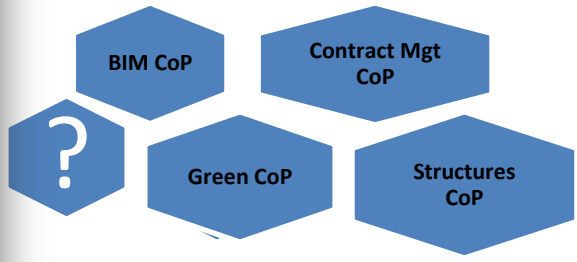


2015

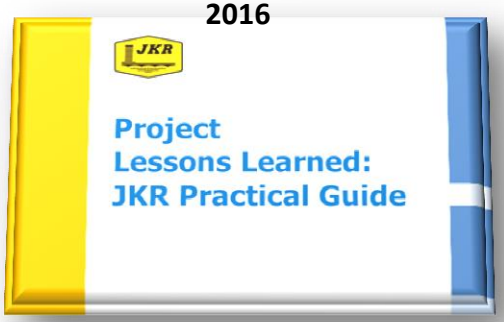


2013

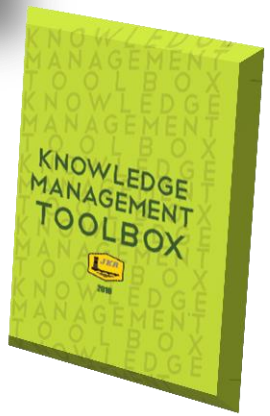
2016



2016



2016



Why KM matters in project implementation

"Our most critical technical knowledge remains siloed in the organisation – or worse, is heading out the door

Our people work at different locations and are geographically dispersed. Knowledge sharing across the department becomes more challenging. People are not learning from each other and are reinventing the wheel"

Dato' Ir. Annies Md. Ariff
Former Director General PWD Malaysia
@ KM Seminar for JKR Directors 2012

Applying KM at project level will-

- make it easier for project teams to find what they need
- foster stronger stakeholder relationships and more effective project delivery
- increase access to the expertise
- Enhance decision making process

KM is a requirement of the new version of ISO9001

ISO 9001:2015 -Clause 7.1.6

Organisations need to determine and manage its knowledge to ensure the operation of its processes and that it can achieve **conformity of products and services**

Aligning KM to Project delivery goals

- To harness the knowledge of over 3,000 JKR professionals into improving project delivery capabilities

Project KM Goals

1. Increase use of under-used knowledge
2. Enhance knowledge sharing across projects
3. Enable capture of tacit knowledge that is not currently shareable
4. Improve access to explicit knowledge

What areas of expertise a project manager should bring to the project team?

Application knowledge, standards & regulations
Understanding the project environment
Management knowledge & skills
Interpersonal skills

Table from Barron & Barron Project Management for Scientists and Engineers, Source: http://cnx.org/content/col11120/1.4/

What are the Critical Project Knowledge?

1 Knowledge about Clients

2 Knowledge of who knows what

3 Project Management Knowledge

4 Knowledge on Costs

5 Knowledge about Contractors, Consultants, suppliers, etc

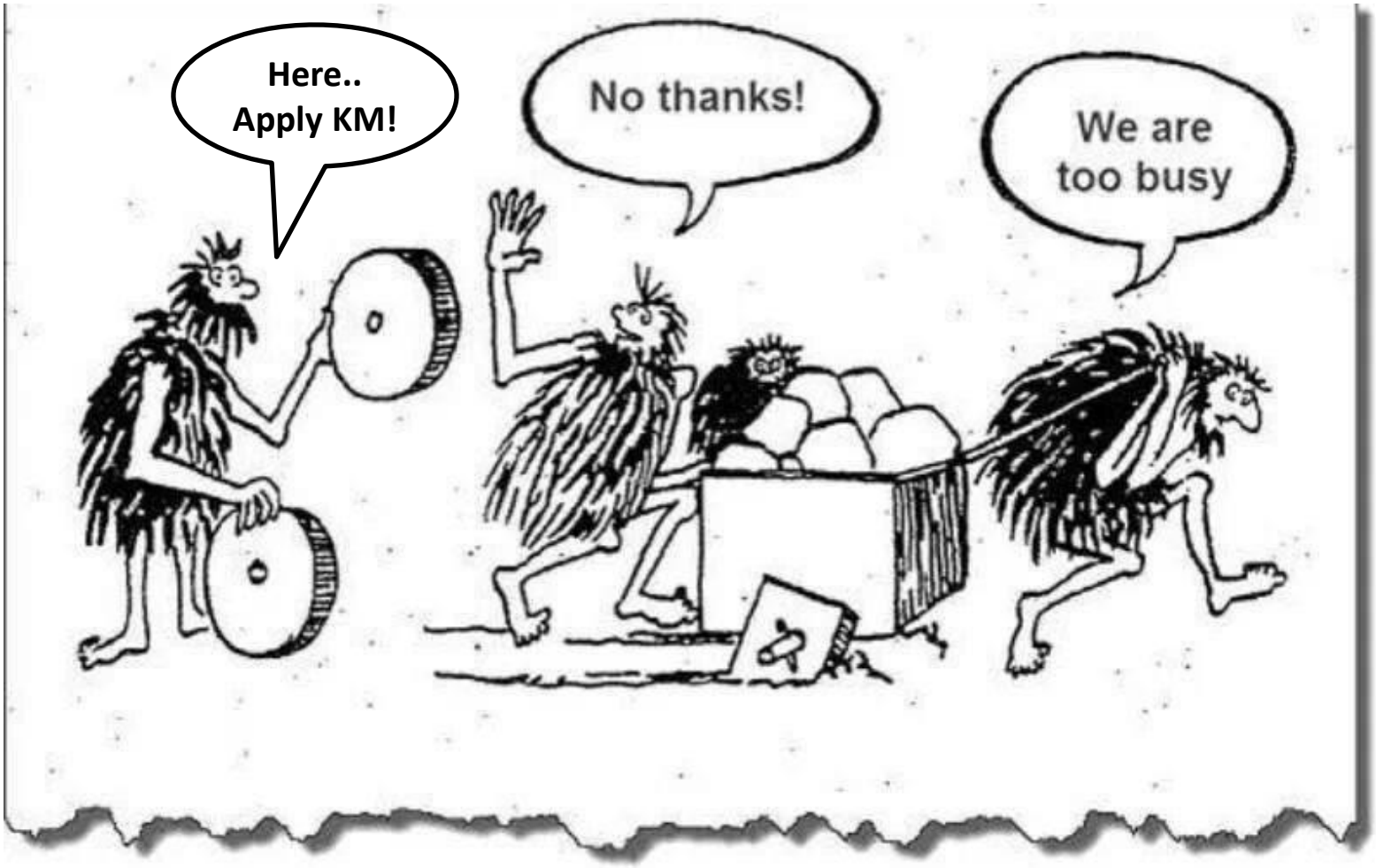
6 Procedural Knowledge

6 Technical Knowledge

6 Legal and Statutory Knowledge

Ranking is based on a survey in a research organisation

Applying KM at project level means making KM a **component part** of the project management process

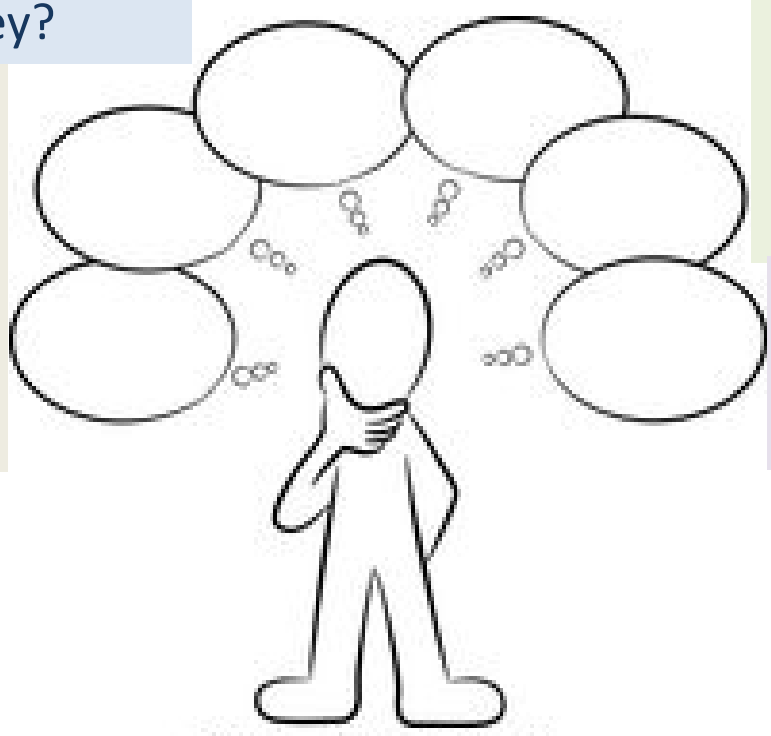


At the project planning phase, the project team need to map out the **learning and knowledge** needed to successfully deliver the project

Where do the knowledge reside? Are they easily **available**?

Who has what knowledge? **Where** are they?

What **knowledge assets** are important? What **knowledge inputs** are needed for the processes?



What **system of processes, technologies and roles** are to be used to manage knowledge within the project?

What knowledge are **created** from the project? Can they be **reused**?

Conduct a KNOWLEDGE AUDIT

KNOWLEDGE RISKS

KNOWLEDGE ACCESSIBILITY

KNOWLEDGE GAPS

JKR KM Online Tools

JPedia
Online Knowledge Repository

- Best Practices
- PM Competency Framework
- Project Lessons Learned
- Technical References and Guides
- Presentations
- Conference Papers

JCoP
Virtual Communities of Practice

- Subject Matter Experts Profile
- Ask and Discuss Online Platform

Connect People to Content

Connect People to People

JPedia

JCoP

Connecting People – The BEST Way

Build Network

Engage Experts

Share Explicit Knowledge

Share Tacit Knowledge

Keretakan tembok

asked Mar 25, 2014 in Structure by Mastura (170 points)

+5 votes

Bangunan asal sekolah ini empat tingkat.dan hanya satu tangga disediakan. Kemudian,tangga tambahan dibuat pada bangunan tersebut. Sekarang,ada keretakan diantara bangunan asal dengan tangga tambahan tersebut.

commented Apr 1, 2014 by Rosli (4,750 points)

Dinding untuk koridor perlukan stiffner dan dowel bar. Begitu juga dinding tang baru dengan blok sekolah. Jika tidak disedi stiffner + dowel bar, bermaksud dinding tersebut bergantung ba ungan mortar dan berat sendiri (self weight) dan beri g.. i.e pelajar / murid sekolah bertolak-t ada dinding tersebut. Untuk loading ini boleh dirujuk dalam Table

Stuktur tangga ba mbung (structur Encik Harjit.

siya dibuat kepada semua sambungan antara slab tangga gan lantai koridor pada setiap tingkat. Kemungkinan ada yang retak banyak dan ada juga sedikit pada sambungan antara tangga baru dan blok sekolah. Dikhuatiri pecahan mortar yang jatuh boleh mencederakan kepala pelajar / murid yang melalui di kawasan tangga baru tersebut.

Punca kenapa berlaku "gap" tersebut perlulah diketahui supaya pembaikan dibuat tidak berulang. Sekiranya atas desakan PPD / Pengetua / Guru Besar supaya ambil tindakan segera bagi elak persepsi kurang baik dari ibu bapa / masyarakat setempat, dinding dipecahkan sebahagian kecil sahaja yang berhampiran blok sekolah. Drill rasuk dan masukkan rebar sebagai stiffner dan sediakan dowel bar. Perbetulkan kembali construction joint.

Sekadar pandangan saya. Terima kasih.

n sememangnya tidak bersambung a dijelaskan oleh Encik Harjit.

Table 4 – Minimum Horizontal Imposed Loads For Parapets, Barriers and Balustrades, etc

TYPE OF ACTIVITY/OCCUPANCY FOR PART OF THE BUILDING OR STRUCTURE	EXAMPLES OF SPECIFIC USE	HORIZONTAL UNIFORMLY DISTRIBUTED LINE LOAD (kN/M)	A UNIFORMLY DISTRIBUTED LOAD APPLIED TO THE INFILL (kN/M²)	A POINT LOAD APPLIED TO PART OF THE INFILL (kN)
A Domestic and residential activities	(i) All areas within or serving exclusively one dwelling including stairs,landings etc. But excluding external balconies and edges of roofs (see C3 ix)	0.36	0.50	0.25
	(ii) Other residential, (but also C)	0.74	1.0	0.5
B and E Offices and work areas not included elsewhere including storage areas	(iii) Light access stairs and gangways not more than 600mm wide	0.22	N/A	N/A
	(iv) Light pedestrian traffic routes in industrial and storage buildings except designated escape routes	0.36	0.5	0.25
	(v) Areas not susceptible to overcrowding in office and institutional buildings also industrial and storage buildings except as given above	0.74	1.0	0.5
C Areas where people may congregate	(vi) Areas having fixed seating within 530mm of the barrier, balustrade or parapet	1.5	1.5	1.5
C1/C2 Areas with tables or fixed seating	(vii) Restaurants and Bars	1.5	1.5	1.5
C3 Areas without obstacles for moving people & not susceptible to overcrowding	(viii) Stairs, Landings, Corridors, Ramps	0.74	1.0	0.5
	(ix) External balconies and edges of roofs. Footways and pavements within building cartilage adjacent to basement/sunken areas	0.74	1.0	0.5
C5 Areas susceptible to overcrowding	(xi) Theatres, cinemas, discotheques, bars, auditoria, shopping mails, assembly areas, studio. Footways or pavements greater than 3m wide adjacent to sunken areas	3.0	1.5	1.5
D Retail areas	(xiii) All retail areas including public areas of banks/building societies or betting shops. For areas where overcrowding may occur, see C5	1.5	1.5	1.5
F/G Vehicular	(xiv) Pedestrian areas in car parks including stairs, landings, ramps, edges or internal floors, footways, edges of roofs	1.5	1.5	1.5
	(xv) Horizontal loads imposed by vehicles	See clause 11		

The hand auger is very simple hand tool used for drilling into soft soils down to a max different steel augers (drill bits) can be attached at the bottom end of the drill rods. Th emptied. A different auger can be used for each formation (soil) type. Hand augering

Above the water table, the borehole generally stays open without the need for suppor can be emptied either with an auger or a bailer. The permanent well casing is then in support for the borehole as the permanent casing (direct installation), although in tha silt and soft clay

JPedia Statistics

PAGE STATISTICS

60

AVERAGE VISITS/DAY

10,200

PAGES

2,976

REGISTERED USERS

8,098

UPLOADED FILES

** As of 08.08.2017*

JCoP Statistics

1,134
QUESTIONS

2,158
ANSWERS

774
COMMENTS

2,481

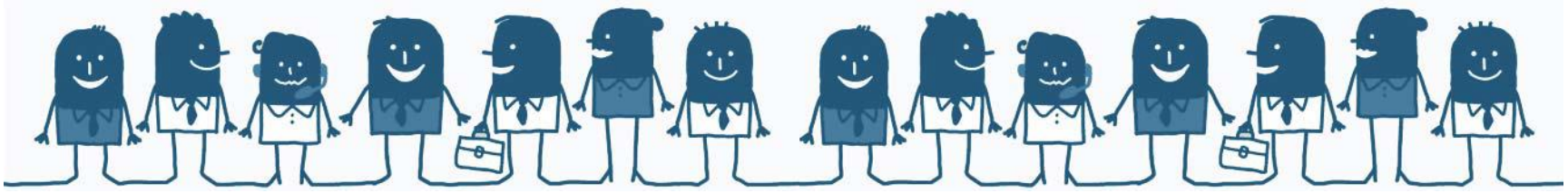
REGISTERED **USERS**

** As of 08.08.2017*

JKR CoPs

Peer networks of practitioners within JKR who help each other to perform better by sharing knowledge and experience.

Through this collaborative environment, new knowledge is created and will help spark innovation



Cultivating CoP in JKR

Aligning to JKR Strategic Framework

Roadmap and milestones

Structure, roles & responsibilities

DOMAINS

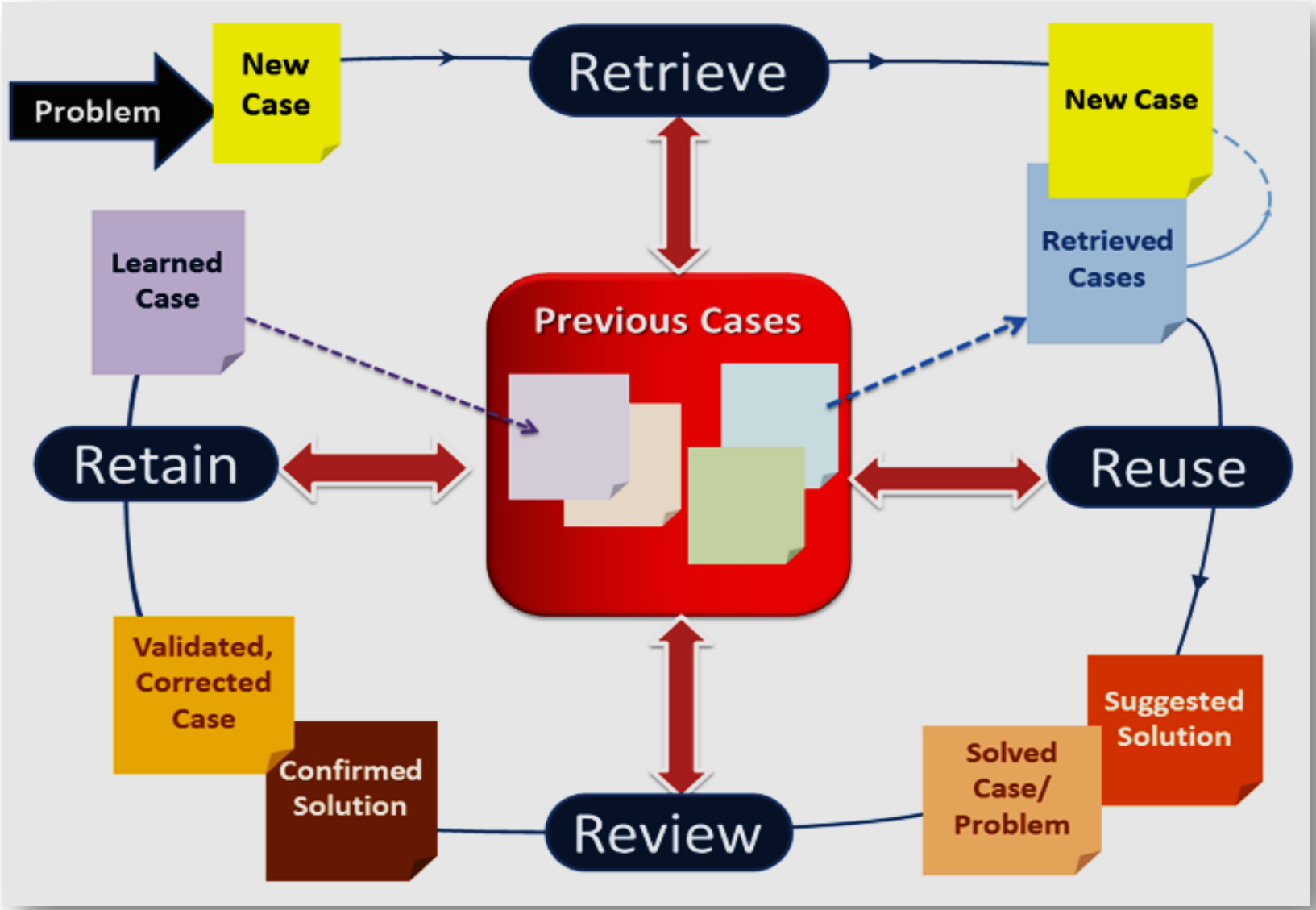
1. Project Management
2. Stakeholder Management
3. Technical & Contract Administration
4. Asset & Facilities Management
5. Human Resource Management
6. BIM
7. Green
8. Contract Mgt
9. Structures

Connecting People and Content – the BEST way

CoP Domains @ JKR

- Project Management
- Assets and Facilities Management
- Stakeholder Management
- Human Resource Management
- Technical and Contract Administration
- Structure
- BIM
- Green
- Contract Management

Use What We Already Know



Project Knowledge Reuse – Project Lessons Learned (PLL)

Learning gained from the process of performing a project

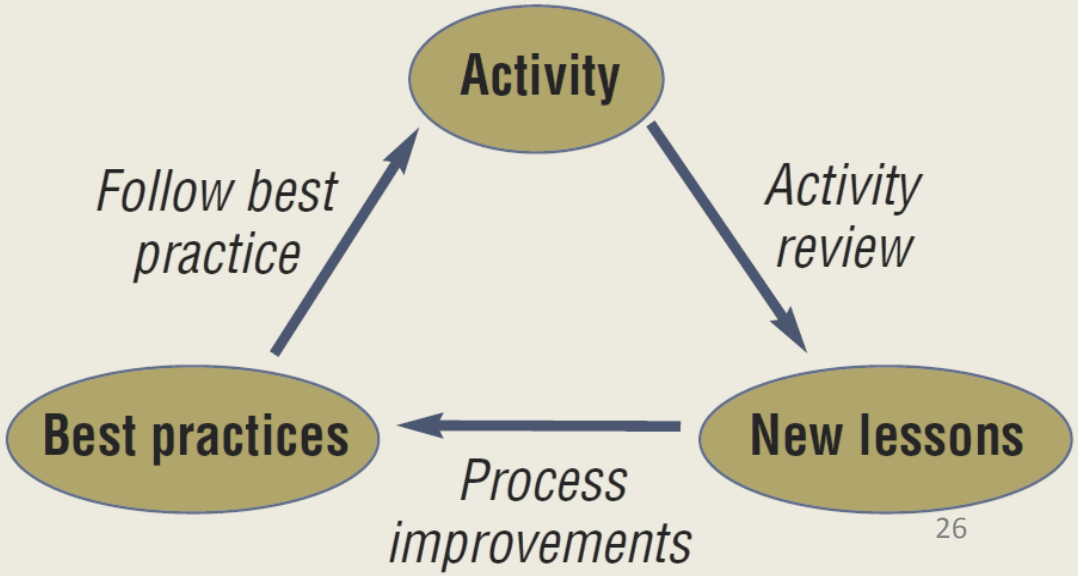
To promote the recurrence of desirable outcomes

To preclude the recurrence of undesirable outcomes

Learn the good practices

Avoid the repeats of bad practices

New knowledge and new learnings *are identified through activity and review, and incorporated into future work practices*



The question remains:

"Why are lessons learned **not captured**,

or

if they are captured, **not used**?"

Common excuses

- Not sure what lessons learned are
- No knowledge or lack of clear directives on who and how to capture lessons
- Lack of time and resources
- Lack of management support
- Not knowing where to store or search for lessons learned
- Fear of getting blamed or feeling ashamed if mistakes are exposed
- Fear that auditors pick up wrong doings

Where can Lessons learned be derived from?

Learning from incidents

- After Action reviews
- After an event/post mortem
- Post Implementation review

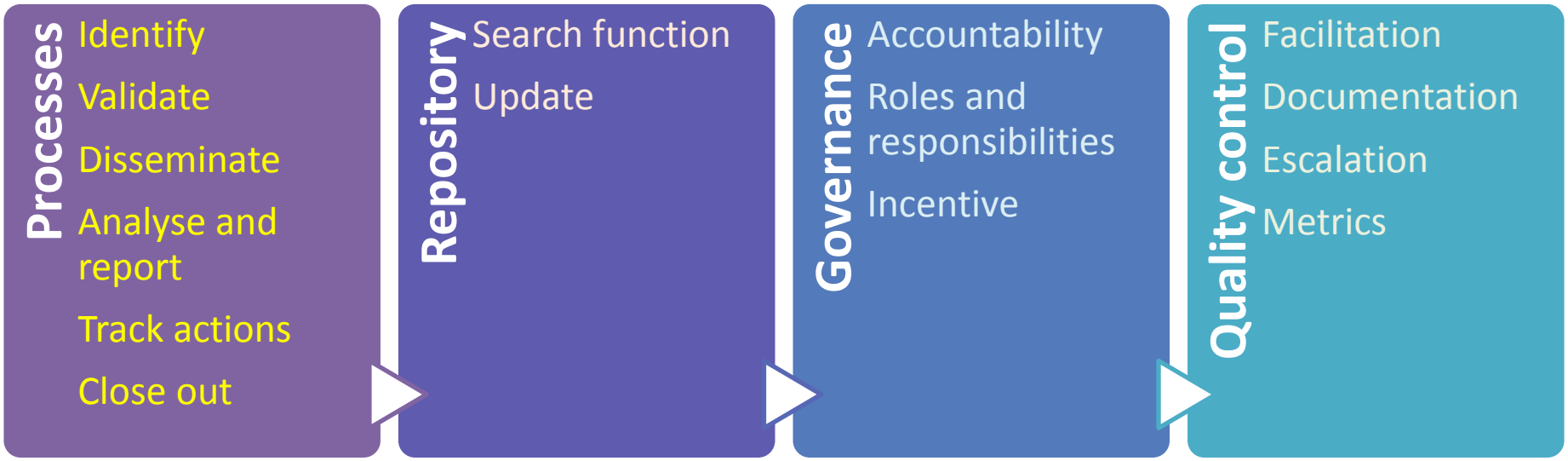
Knowledge sharing activities

- Individual experience
- Observation

External Reviews

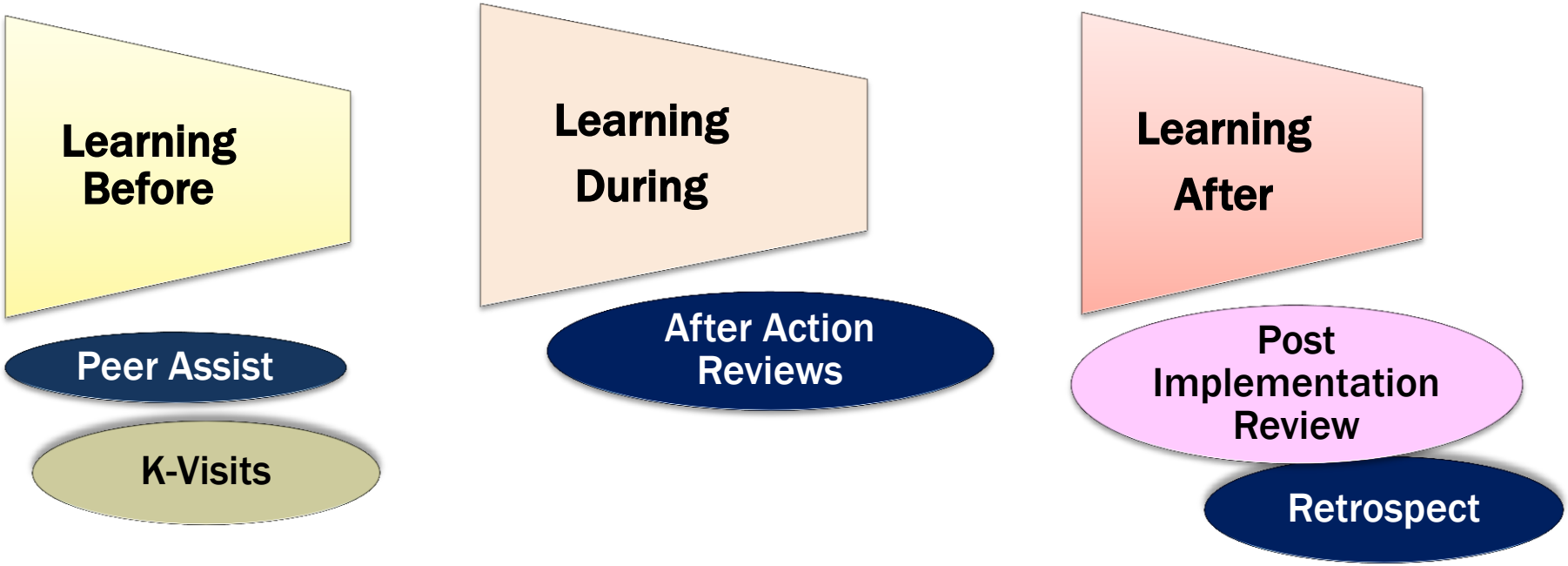
- Audits

An Improved Approach for Capturing PLL in JKR



Components of the new PLL system

Project Knowledge Capture



Techniques

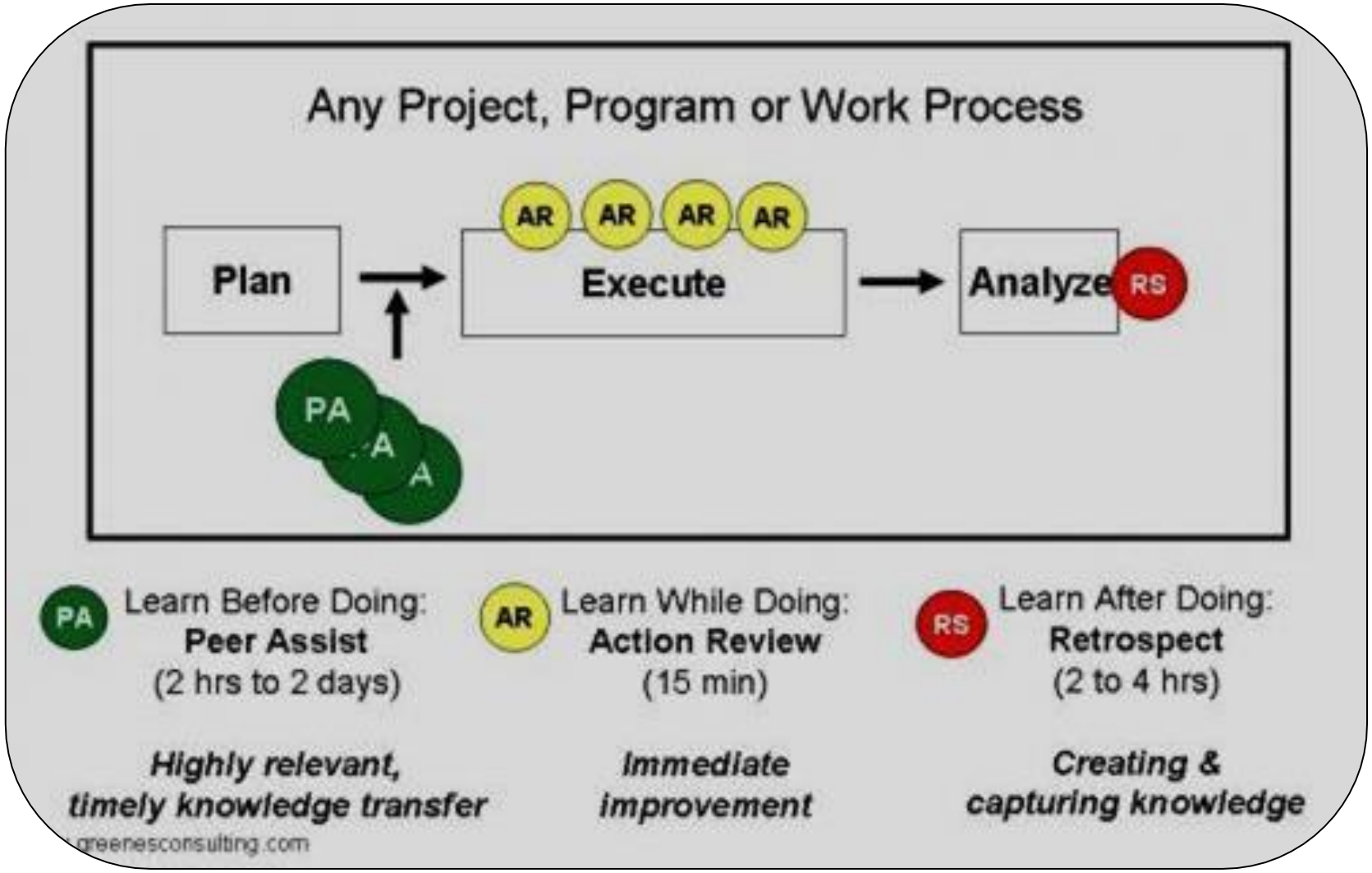
Story telling

Knowledge Cafe

Coaching & Mentoring

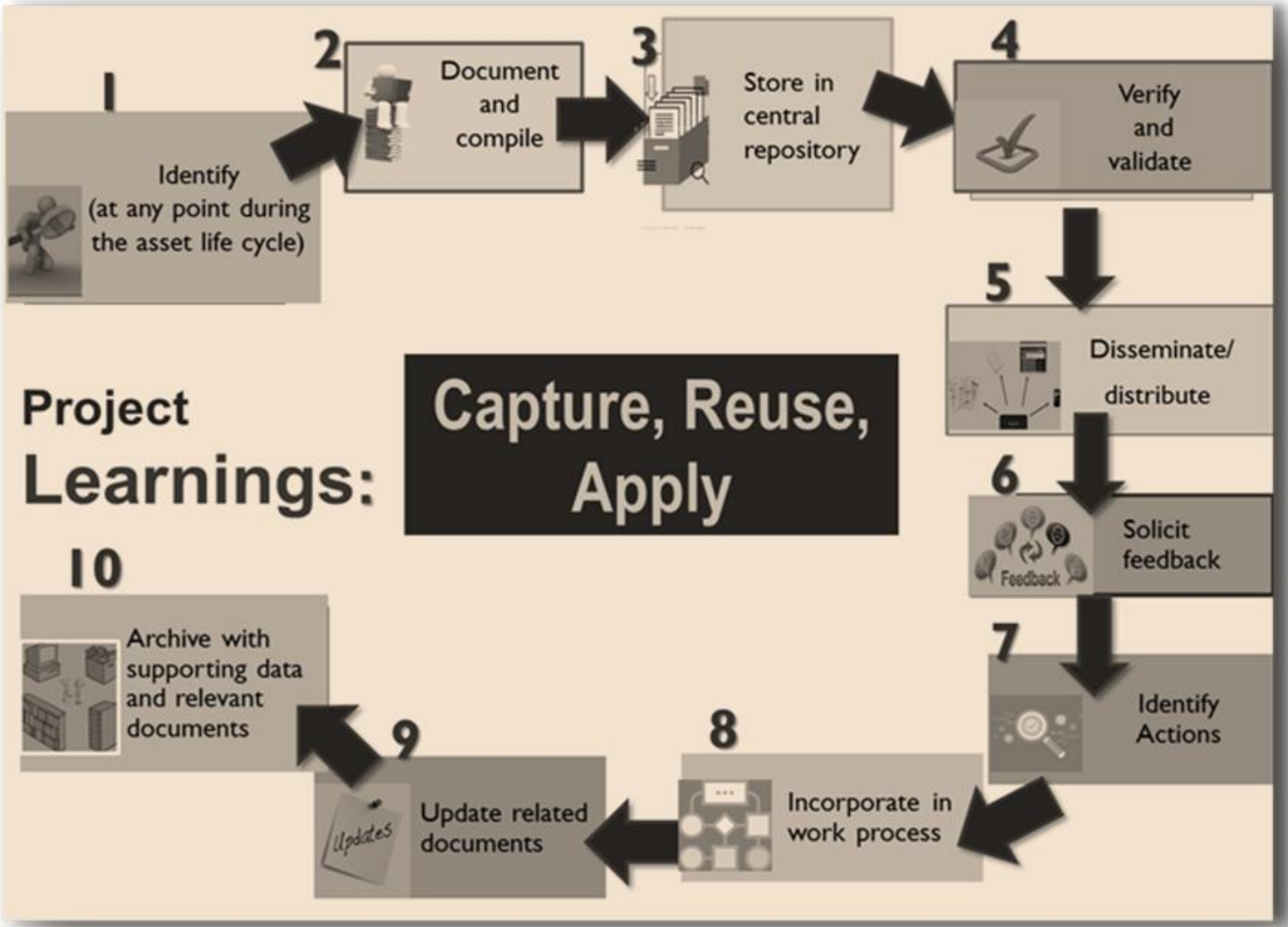
Interview

Project Learning at "Mission" Speed



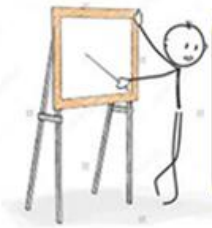
Project Lessons Learned Reports

PLL ACTIVITIES



ROLES AND RESPONSIBILITIES

Project Team
- Identify and capture PLL



Project Office at Branches and State Offices
- Facilitate and coordinate preparation of PLL

Portfolio Office (CPAB)
- Verify with SME
- Approve PLL
- Upload PLL to JPedia
- Analyse PLL
- Escalate critical issues to top management for decision if necessary

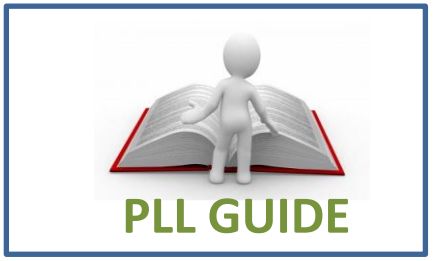
SME
- Verify PLL
- Review existing procedures/processes and recommend improvements if necessary
- Refer to process owners for decision

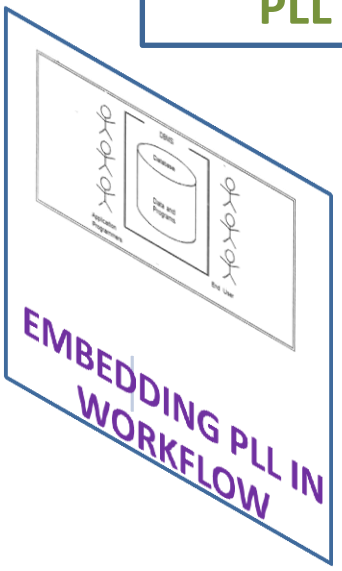
Users
- Give feedback
- Send queries

Process Owners
- Decide whether existing documents need to be revised

Making It Happen

AWARENESS TALKS





Stop the Blame Game!

Get the best from KM

JPedia as a first “go-to” place to look for knowledge

JCoP to ask and discuss online, and look for the experts

CoP to interact face to face

Project Lessons Learned to improve project delivery

Right KM tools and techniques to create, capture, share knowledge

E-Learning to learn anytime, any place

Thank you for your attention