






# Review of UKPMS core functionality – the project

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17<sup>th</sup> February 2009




## Topics



- Background context – UKPMS history
- Objectives of this commission
- Determining the priorities
- Developing the **core functional specification**
- Implementation plan - budgets and timing
- Our vision for the future of UKPMS



## UKPMS History




- Logical Design
  - Late 1980s to 1994
- Comparability Testing
  - 1996-2000
    - Tranches 1, 2 and 3
- Support Contract
  - CBC: July 2003
    - Annual Health Check (2005 onwards)
  - PCIS: June 2008






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## UKPMS History



- UKPMS is a standard for pavement management systems in the UK
- Five systems met the standard
  - **Exor Corporation** Exor UKPMS
  - **Pitney Bowes Business Insight (MapInfo)** Confirm Pavement Manager
  - **Symology** Insight
  - **WDM** WDM PMS/UKPMS
  - **Yotta DCL** MARCHpms

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## Managing changes to UKPMS

- Examples of previous changes
  - BVPIs & NIs
  - PIs for Scotland, Wales & Northern Ireland
  - SCANNER data
  - Road Condition Indicator (RCI)
  - Asset Management.....
- Change control process
  - Annual Health Check
    - Importance of version control



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## UKPMS Review

- Dr Richard Robinson (UKPMS Steering Group)
  - Strategic Plan *April 2004*
- Halcrow
  - UKPMS Strategic Development Study *March 2006*
- Dr Mike Ebert
  - UKPMS Strategic Review – Development of Commercial Development Environment *November 2006*
- TRL & Atkins
  - Review of UKPMS Core Functionality *May 2009*



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## Objectives of this commission



- "Review the UKPMS core specification in the light of the Halcrow and Ebert reports, to ensure it addresses local authorities' future highways data analysis needs"
- "To produce a core specification for highways engineering software systems, which will replace the current UKPMS core specification as the minimum functionality that all PMS should embody"

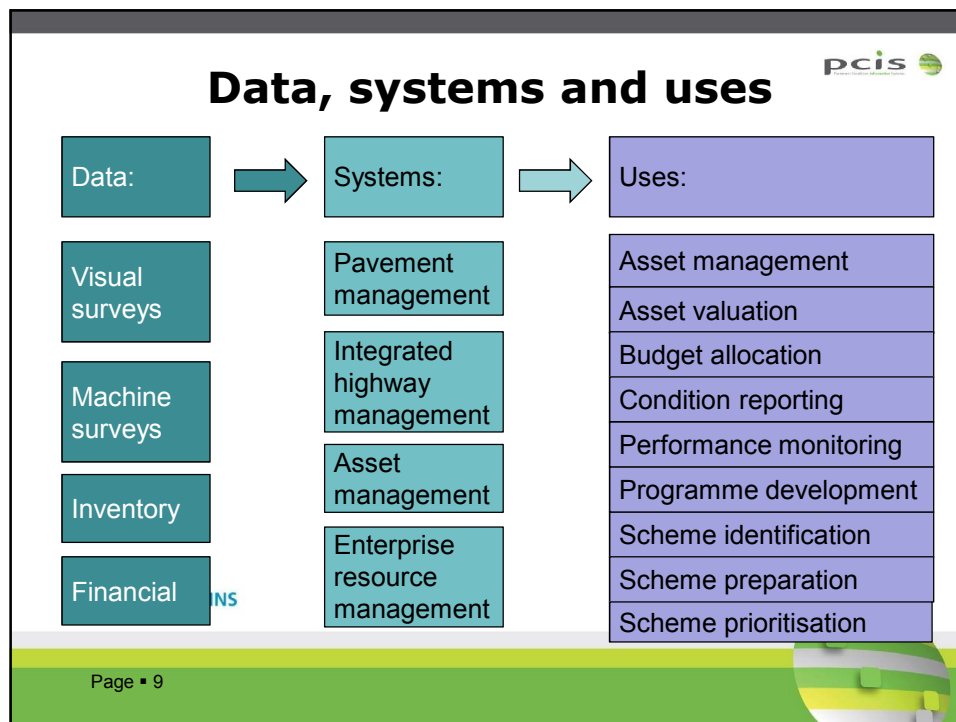


## Three elements





- Determine the priorities
- Develop the core specification
- Map the agreed core specification to an indicative timetable and budget





## Determine the priorities pcis

- Produce a **rationale for commonality of functions** across local authorities and systems
  - Both the Halcrow and Ebert reports considered this in part
    - NOT intended that this project should re-cover that ground
  - Brief review of Halcrow and Ebert reports,
    - to take account of recent developments
- Look at the **wider context** of PMS
  - Increasing importance of an asset management approach
  - Need for asset valuation
  - SCANNER functionality
  - Outstanding issues from the Ekins-Hawker report
  - Potential for making better use of existing research

## Develop the core specification

- Commonality is NOT suggested just because local authority engineers say they want it
  - Each component of the core specification grounded in a firm rationale such as:
    - The need for common reporting standards
    - The need to work with other software systems such as GIS
    - Enabling local authorities to switch straightforwardly between systems if they wish



## Develop the core specification

- Distinguish between
  - Things that a good PMS should be able to do (state of the art)
  - Things that all PMS need to do in the SAME way (common core)
  - Techniques that would benefit from research being conducted centrally
- The project is primarily concerned with the things that **all PMS should do in the same way** (the common core)
- The aim is **NOT** to produce a statement of the state of the art

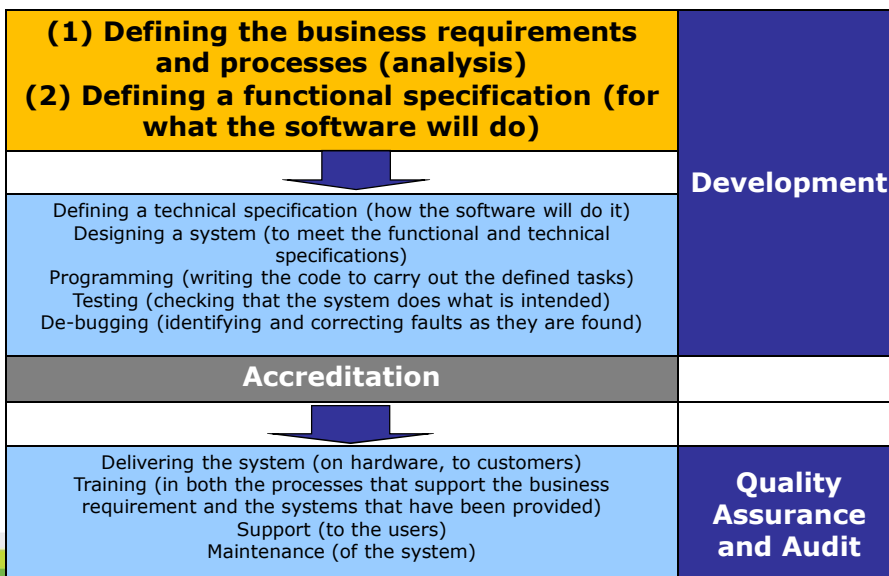


## Develop the core specification

- Identify topics which would benefit from some preferred or “best practice” specification, even though they are not part of the “core”
  - These should form a secondary list and
  - May include some areas where centrally commissioned research might be considered
- Priorities identified in terms of outcomes, rather than processes
- Revised core specification expressed so as to
  - minimise the impact on commercial systems internal architecture and
  - to maximise its integrability



## Life cycle of an ICT product



## Budget and timing



- Consider the costs and timing of delivering the core
  - On whom the costs are likely to fall
  - The ability of the market (not just existing UKPMS suppliers) to deliver
  - Taking account of the Halcrow report's costed development programme (but do not duplicate this work)
- Take account of where the industry is now, and how it would be expected to migrate
- Not required to cost and time any "desirables", but include any information that arises in the final report

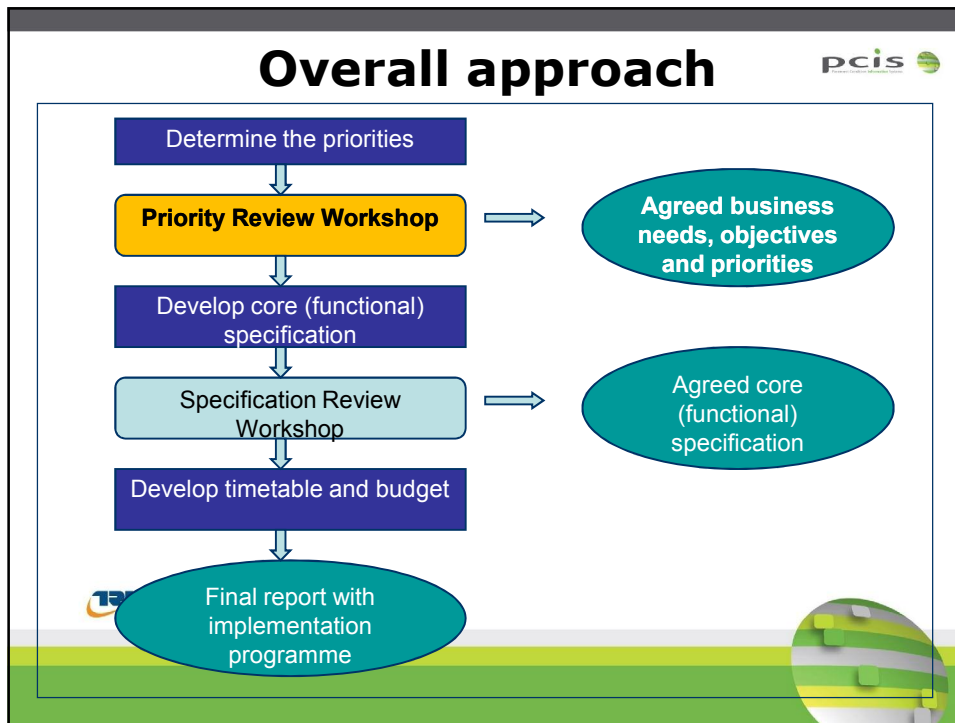


## Budget and timing



- Distinguish between
  - Research to determine how the real world behaves (e.g. a deterioration model) and
  - Implementation of software that embodies the results of that research (e.g. a condition projection module)
- Considering how each component of the core could be considered as compliant
  - Without prejudice to the certification process that might be used







### Project plan pcis

	Nov	Dec	Jan	Feb	March	April	May
Project start	☆						
Determine priorities	→						
Workshop 1				☆			
Develop core specification			→				
Workshop 2						☆	
Budget and timetable				- - - - -			
Final report							☆


## Project Milestones




- 14 Nov 08: Project start date
- 02 Dec 08: Project inception meeting
- 15 Jan 09: Meeting with Developers
- **17 Feb 09: Workshop 1**
- 22 Apr 09: Workshop 2
- 15 May 09: Project completion



## Wider context of UKPMS



- Radical approach – “zero based” (**Today**)
  - Question every element of UKPMS, build up from nothing
- Evolutionary approach – starting from existing core specification (**next workshop**)
  - Incremental modifications, practicality of each change
  - Why it has to be consistent
- ***We will consider BOTH approaches***



## National reporting requirements

- UKPMS used to report BVPI
  - But now LAA NI are ONLY based on SCANNER, do we have to use UKPMS?
  - **the calculations could be carried out by the survey contractors**
- DfT proposes to use SCANNER for NRMCS reporting
  - Developing a different approach, collecting summary survey data direct from the contractors
  - **What role will local authorities play in validating the data?**
  - **How could UKPMS support that?**



## Local highway authority requirements

- Our vision is that UKPMS should evolve to become a more flexible and dynamic system, designed to continue to adapt and change in a controlled way
- So that it will meet a technical need recognised by all local highway authorities






## Our vision for the future of UKPMS

- Local authorities will be willing to purchase the systems to meet those needs, because they have found it to be the most cost effective way to do so, and
- They will be prepared to pay a price for the systems that
  - enables the developers to recoup their investment in the core system,
  - and to invest in developing additional functionality which they can sell at a fair price



 






## Future developments

- This contract requires us to identify future technical research and development requirements
  - And specify the programme to achieve them
- The Halcrow report included a costed development programme
  - We are not required to duplicate Halcrow's work
  - BUT some of their recommendations may need to be reconsidered as we develop our proposals for the core functional specification for UKPMS



## Accreditation, QA and audit

We see a radically different approach:

- Acceptance testing leading to accreditation
  - Kept as simple as possible
- Re-accreditation testing
  - Annual process to ensure continuing comparability
- Quality assurance
  - Separate process, to ensure systems and services continue to perform to the specification
- Audit
  - Independent checks of system performance



## Final project report

- What local authorities need, and **WHY** they need it
- What should be in the core specification
  - And a **functional specification for the core**
- What any good PMS should be able to offer (the state of the art)
- Where there are gaps or techniques that would benefit from further research
- The budget and time constraints for each core component
  - And an **indicative timetable and budget** for the development and implementation of the new **core specification**



## The CORE functional specification


- The project is primarily concerned with the things that **all PMS should do in the same way** (the common core)
- Commonality is NOT suggested just because local authority engineers say they want it
- Each component of the core specification grounded in a firm rationale



## Today's discussions




1. What do we need a PMS to do for us (what are the uses)?
2. What do we expect a system to provide for us?
3. What should be in the **core** functional specification ?







**Questions and comments?**

Review of UKPMS core  
functionality – the project



Presented by Ro Cartwright  
Review of UKPMS core functionality  
Workshop 1  
17<sup>th</sup> February 2009

**THANK YOU**





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