





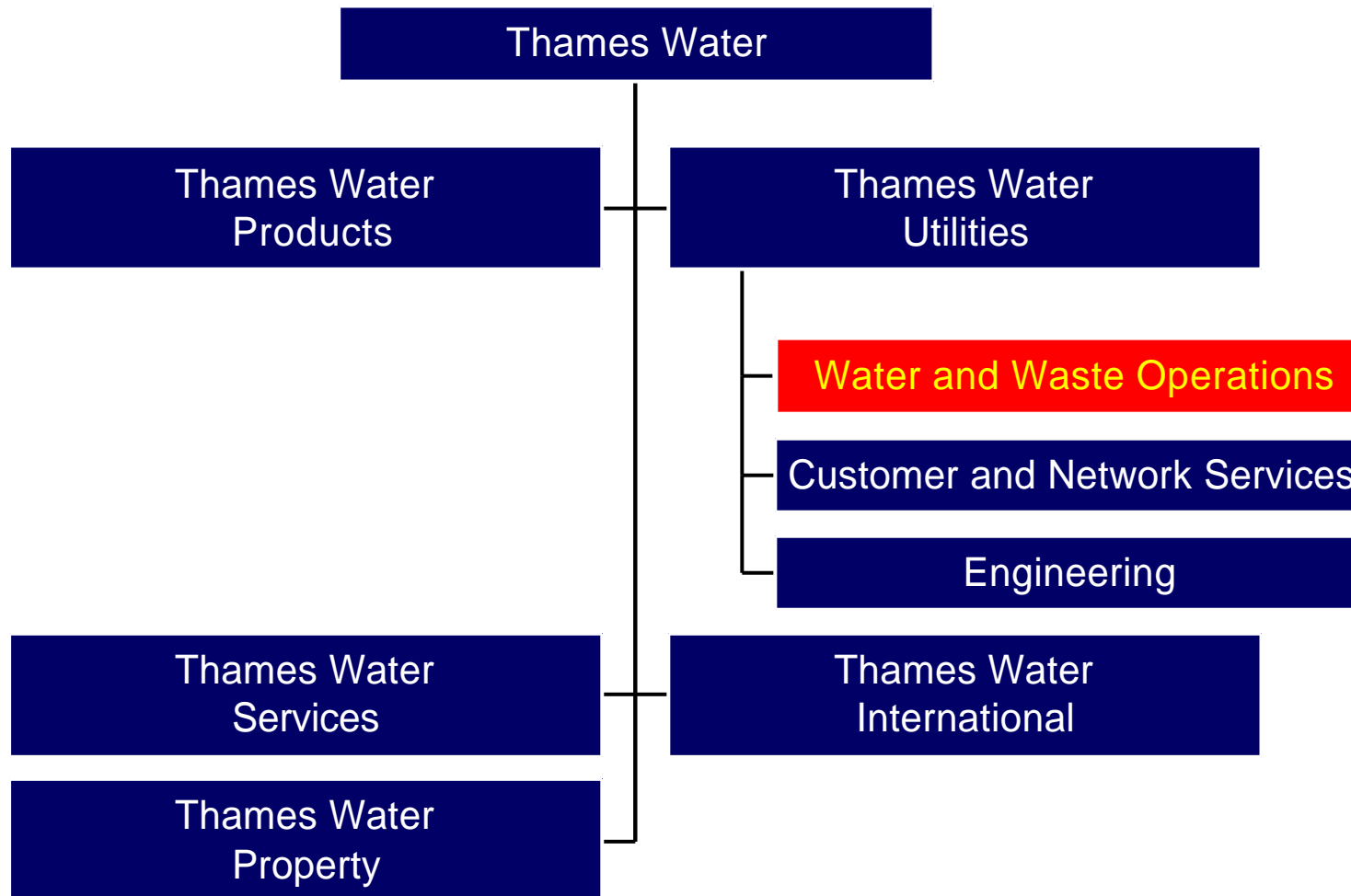
Pervasive Mobile Computing in the Water Industry

Matt Morris
Thames Water Utilities

IBM Warwick, February 2001



Thames Water Organisation





Mobile Workforce Issues

today's problem

- geography
- paper chase
- invalid or not enough information on work request
- Limited visibility of work in progress
- ambiguous and corrupt data on which performance is measured
- waiting for jobs and or attending repeat jobs
- outdated paper plans

the solution

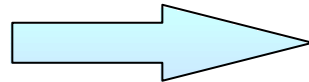
- improvement in plant and customer information
- real time data
- mobile device
- ability to drip feed and bulk despatch work
- less phone calls required





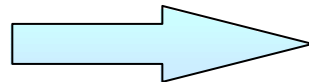
Response to Current Market Forces

Operating efficiency



- outsource streetworks/ maintenance
- BPR
- reduce headcount
- performance measurement

Regulatory pressure

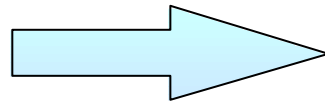


- understand your asset base - knowledge management
- Repair vs. renew decisions
- supply chain improvement



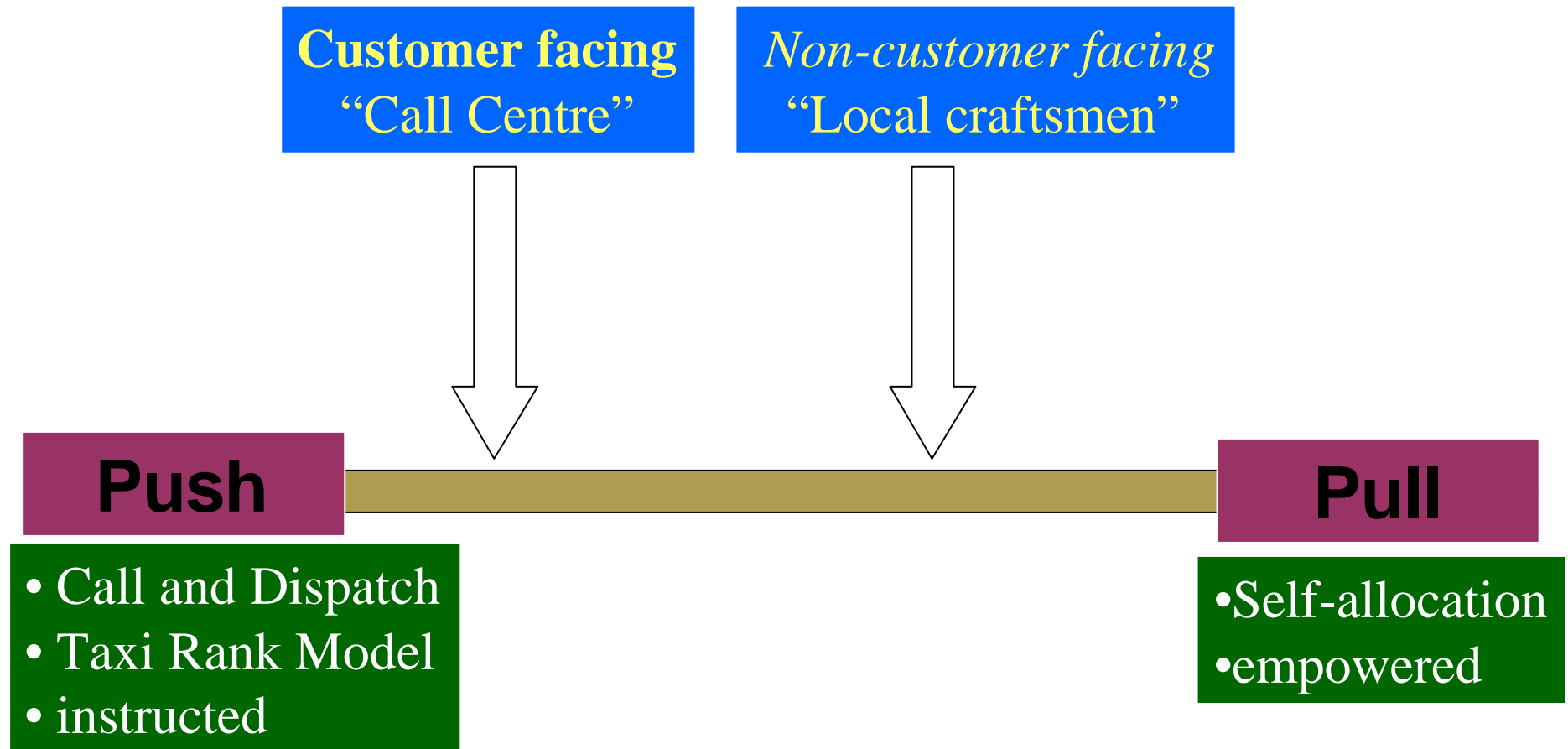
Response to Current Market Forces

**Commercial
pressure -
common
carriage**



- customer service improvements
- need a flexible workforce
- need to be able to provide quotations based on historical costs

‘Push’ Versus ‘Pull’

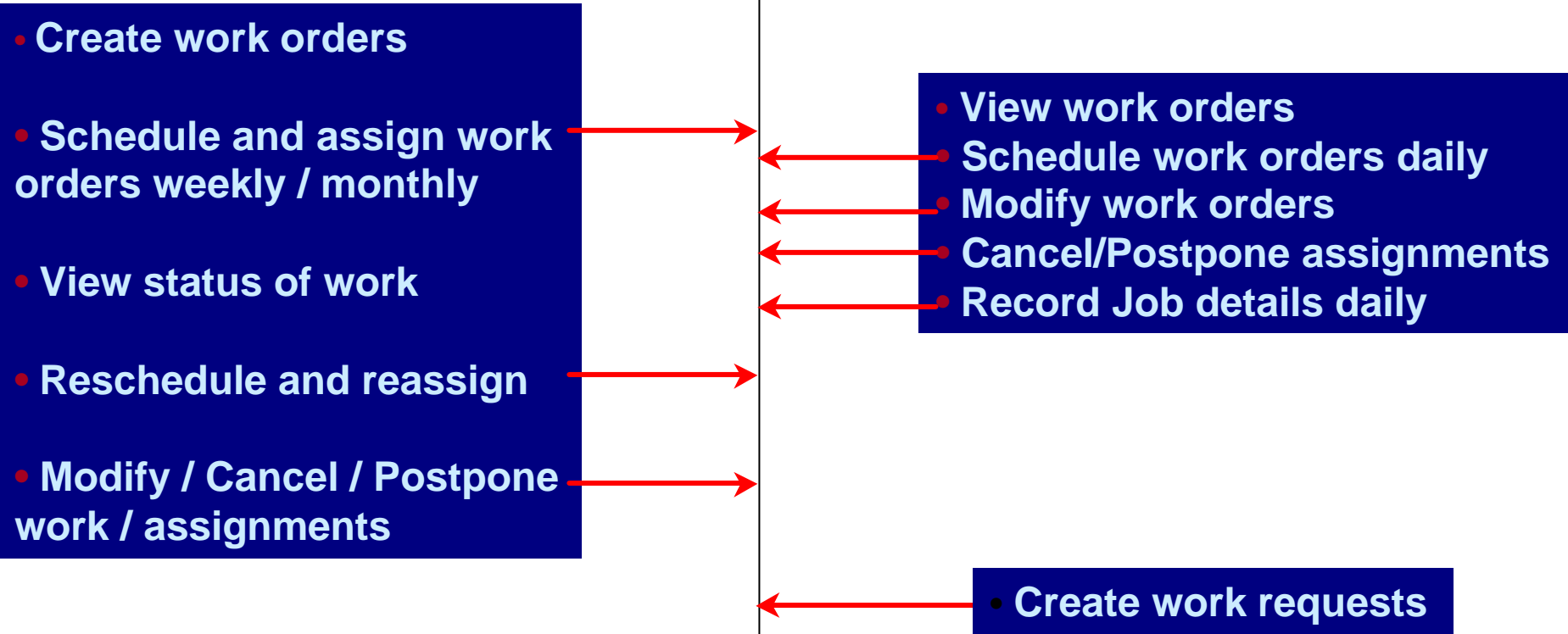


Business Process Flow

Team Leaders



Mobile Craftsmen





Opportunities to Improve Efficiency

- Understand the workload
 - Capture the reactive jobs that aren't captured today
- Make the status of staff in the field visible
 - So we know who is available for more work



Opportunities to Improve Asset Efficiency

- Feedback to design
 - Better information on poor performing plant
- Make decisions faster
 - Get consistent and timely information back from the field

Move from passive to active management

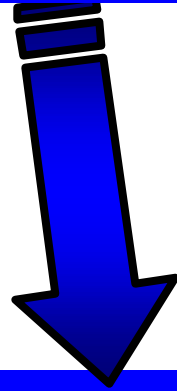


Opportunities to Grow

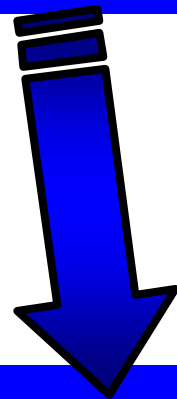
- Know the availability of staff
 - Use mobile device to capture people's availability
- Data capture issues are distracting employees from adding value
 - Make it easier



People



Process



Technology





Implementation Challenges

- Craftsmen have not used a computer in their jobs before.



- Training required

- Contractors won't "buy" it



- Low cost of entry for contractors

- A change in the familiar patterns of work ?



- Communication of vision



Evaluate Mobile Solutions

- Handheld device
- GPRS vs GSM vs RAM
- Middleware application
- Legacy systems



Communications Costs

Communications Costs must be lower

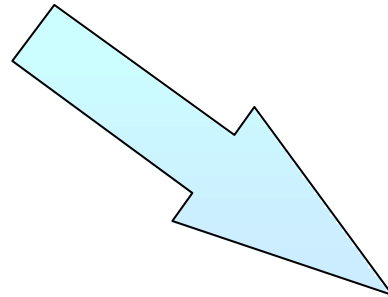
Two way messaging facility is introduced

- Progress chasing done through messaging functionality
- Work Status will reduce information requests



Thames Water's Future

- Better customer service
- Better asset investment decisions
- Increased mobility of workforce
- Faster reaction times - to events and new/changing business



more business