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# *Potential Impact of NPfIT on European Healthcare IT*

Eye for Healthcare NPfIT Conference

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# Global demographic changes becoming more critical

- Life expectancy continuing to increase in most developed countries
- Fertility and birth rates dropping rapidly
- Co-morbidities now commonplace, particularly for elderly population
- Governments facing 'insurmountable' problems funding healthcare delivery
- IT a key enabler of necessary changes



# Increasing impact of medical devices and diagnostics

- Rapid developments in bio-engineering
- Integration implications for widespread use of embedded processors
- Pervasive computing likely to become commonplace in healthcare
- Diagnostics vendors contributing to developments in interoperability
- Changing balance with traditional IT



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# Technology continuing to advance more rapidly

- Virtually unlimited broadband access
- New internet and web technologies
- Commodity technologies being delivered directly to end users
- Shared document architectures for multi-disciplinary workgroups
- Standards proliferating but still not meeting market expectations



# Problems with conventional cost benefit analysis

- Cost benefit curve for clinical systems does not match profile for other sectors
- Issue for healthcare IT is future cost avoidance not present cost replacement
- Difficult for healthcare to find funds for reducing costs not yet being incurred
- Government influence inhibits scope for long term transformational change



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# Increasing market concern about system complexity

- Recognised need for new style approach to 'smart' procurement
- Project lead times constantly increasing
- Almost impossible to define traditional project endpoints and meet timescales
- System testing impractical before go live
- Healthcare IT increasingly in a state of constant transition



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# Significant implications for European eHealth market

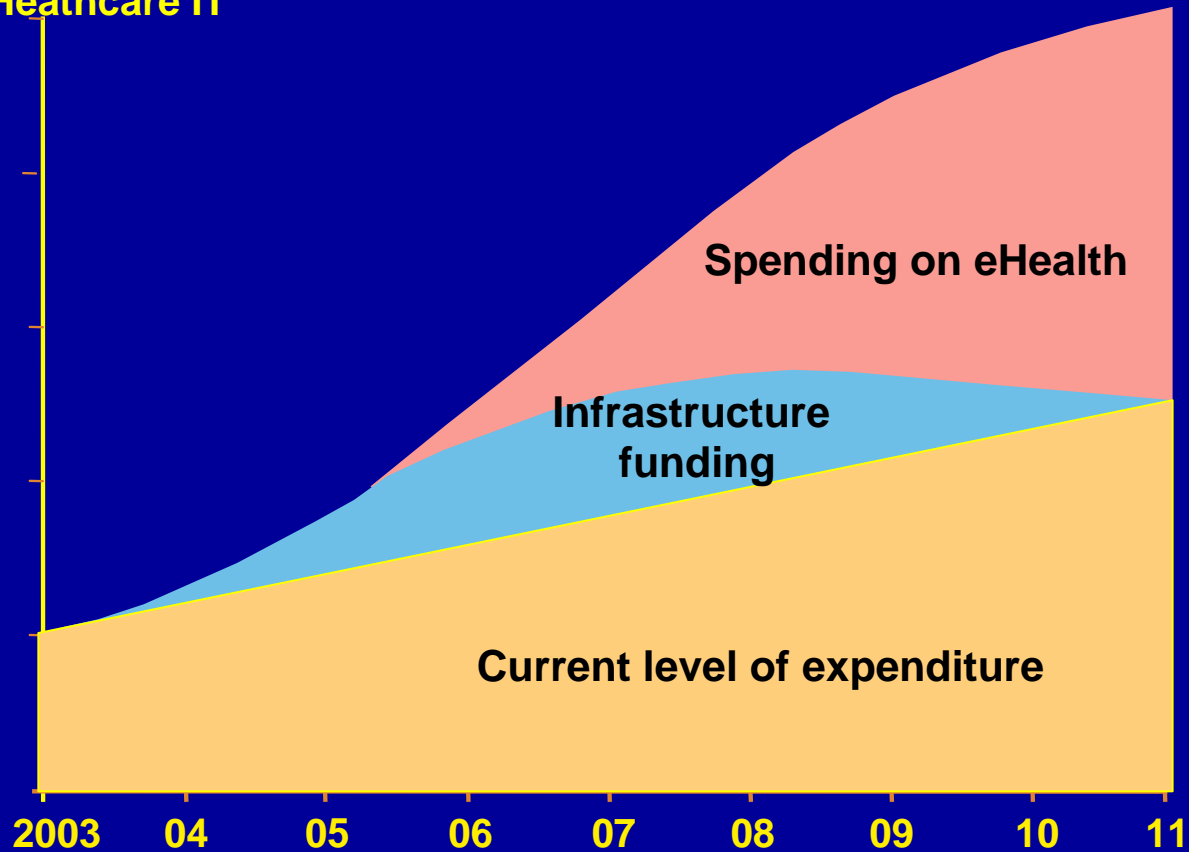
- New ways of working required for healthcare IT vendors and potential market entrants
- Different styles of vendor collaboration and partnership needed to support care delivery
- Market changes becoming more biological than logical – increasingly disruptive
- eHealth predictions need to take account of future market discontinuities
- Key strategic issue for eHealth is not 'if' but rather 'when' and 'how'



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# Annual European healthcare IT spend set to rise to €50bn

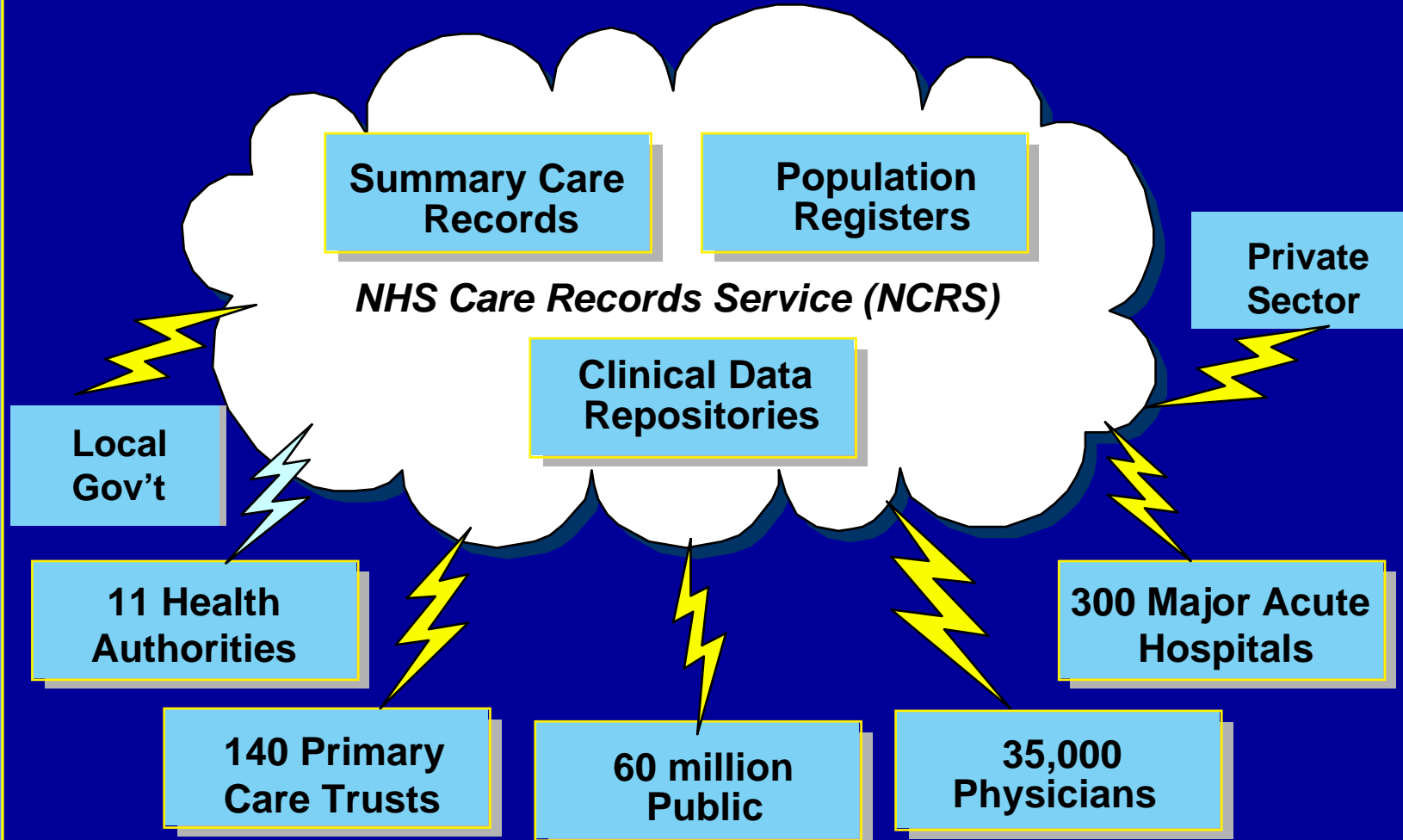
**Expenditure  
on European  
Healthcare IT**





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# NHS National Programme for IT



*NPfIT vision for virtual healthcare delivery*



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# Original NPfIT objectives

- Common nationwide electronic patient record
- Delivered via National Care Record Service
- Improved availability of NHS information for:
  - Health professionals
  - Individual patients
  - Social Services
- Need to 'do it fast' (2 years and 9 months?)
- Ruthless enforcement of standards
- Limitation of choices:
  - Use industry strength systems and suppliers
  - Pay suppliers less for products and services
  - Payment only on acceptance
  - Impose standard solutions
  - Use proven global standards

*Health services to be designed around patients*



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# EPR/EHR technical issues

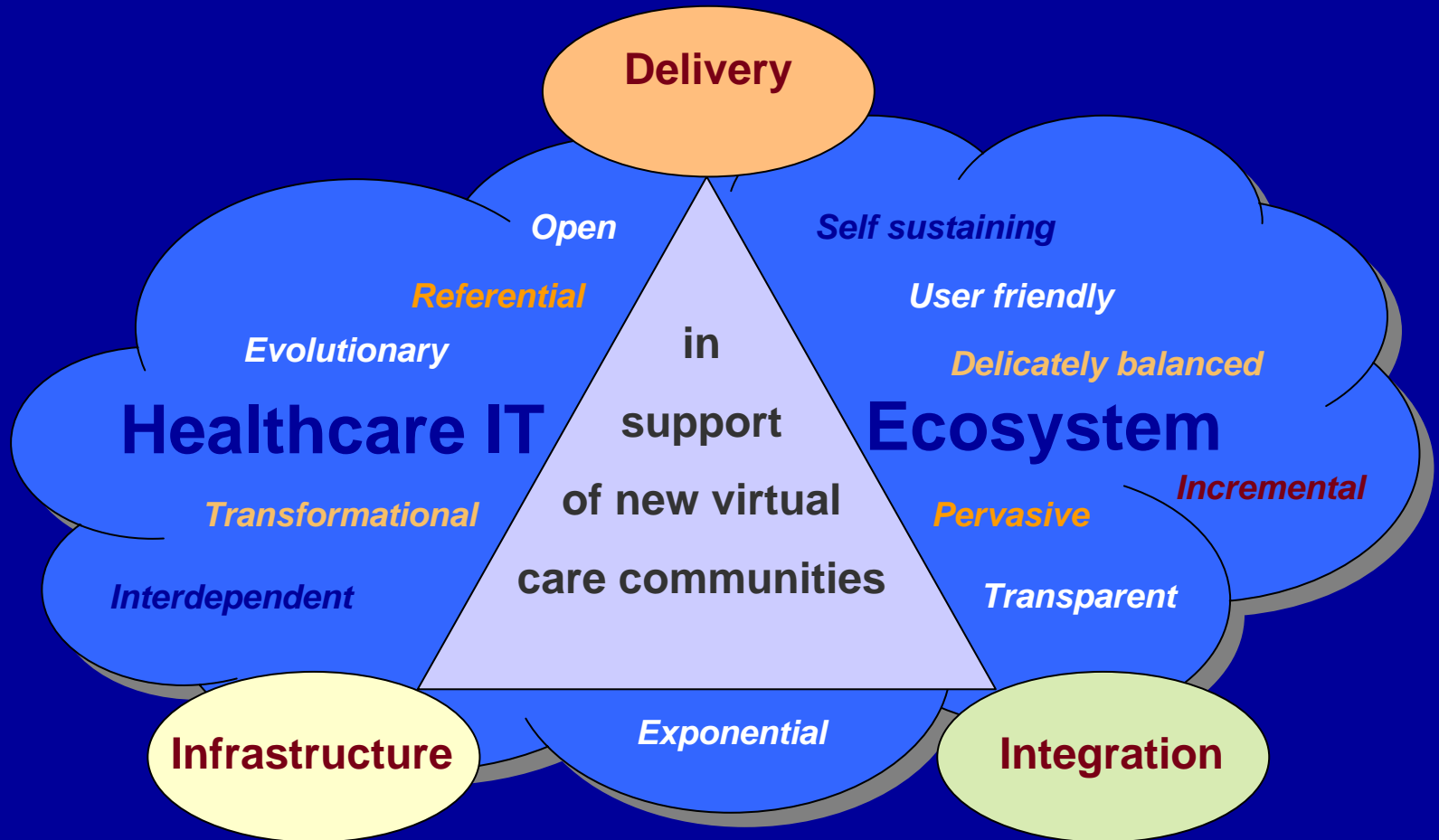
- Limitations of typical hospital input/output 'pipes'
- Restrictions of SOA web services model
- Use of XML with Sequel Server and Oracle
- Implications of .Net dynamic code generation
- Unexpected scale of complexity of Snomed CT
- Challenge of HL7 V3 and V2 compatibility (CDA)
- Structured v unstructured record data formats
- Integration of medical devices and diagnostics

*Key open question is scalability of 'active' EHR solutions in order to serve larger population groups*



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# Evolution from Health IT Ecosystem



*EPR/EHR part of a continuing 25 Year evolutionary cycle*



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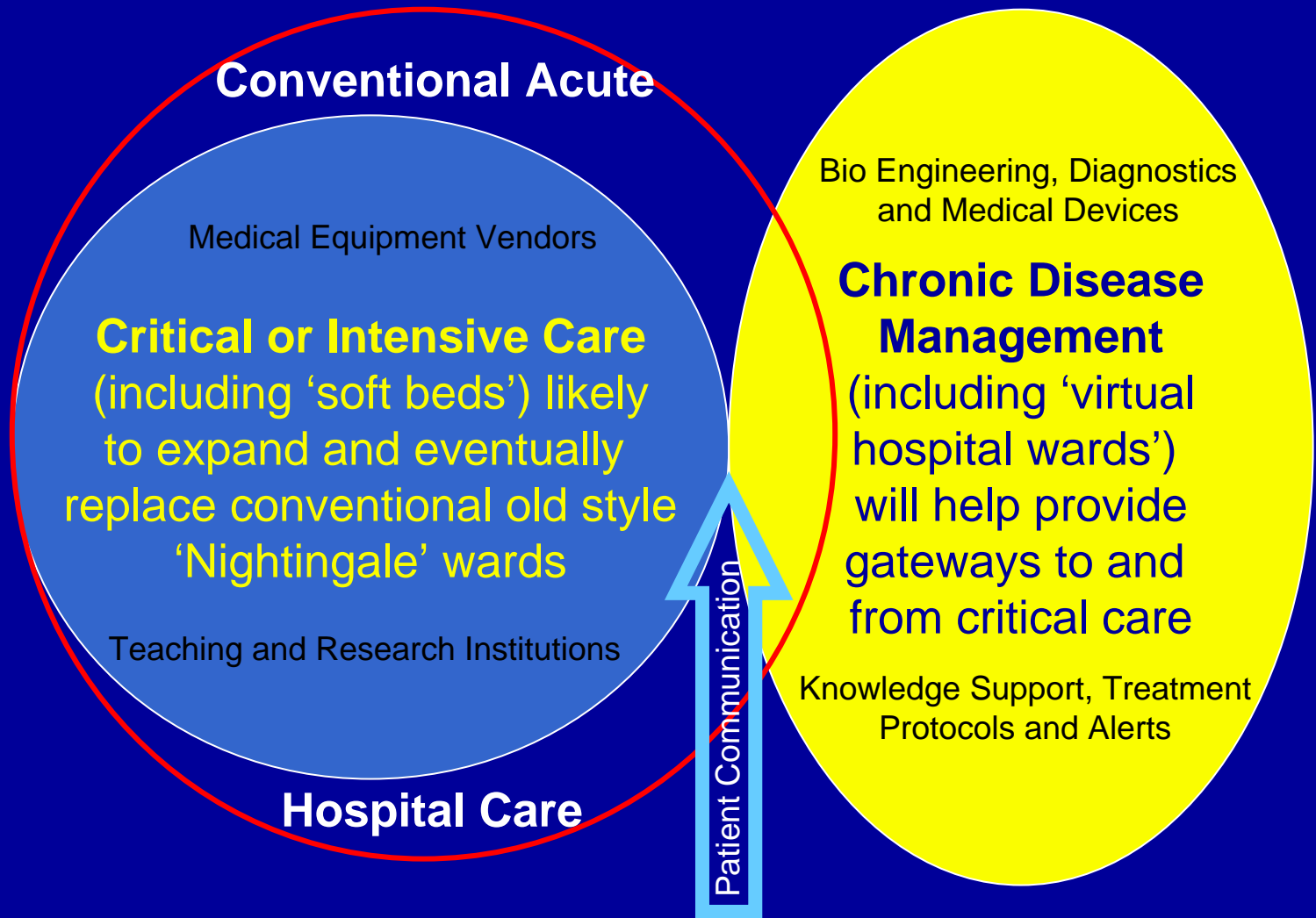
# Technology enabling bold new approaches to electronic records

- Embedded agents to facilitate push technology for downloading hospital information directly into EHRs (Novo Innovation & Scriptswitch)
- Web technology to find EPR components and incorporate these into one-time (not stored) virtual records (Blue Ware & dbMotion)
- Commodity technology for workgroups to enable automatic sharing of information via intelligent registers (Microsoft Groove & IHE/XDS)
- Low cost medical devices to collect 'near patient' data and transfer it wirelessly into appropriate repository (Continua & Oracle)
- Medical technology to define new levels of clinical process integration (GE & eCeption)



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# Evolving patterns of care delivery



*Patient monitoring, scheduling and communication support at point of confluence are critical to successful integration of Intensive Care and Disease Management*



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# Chronic Disease Management

*Vendor collaboration needed to handle scaleable end-to-end implementation:*

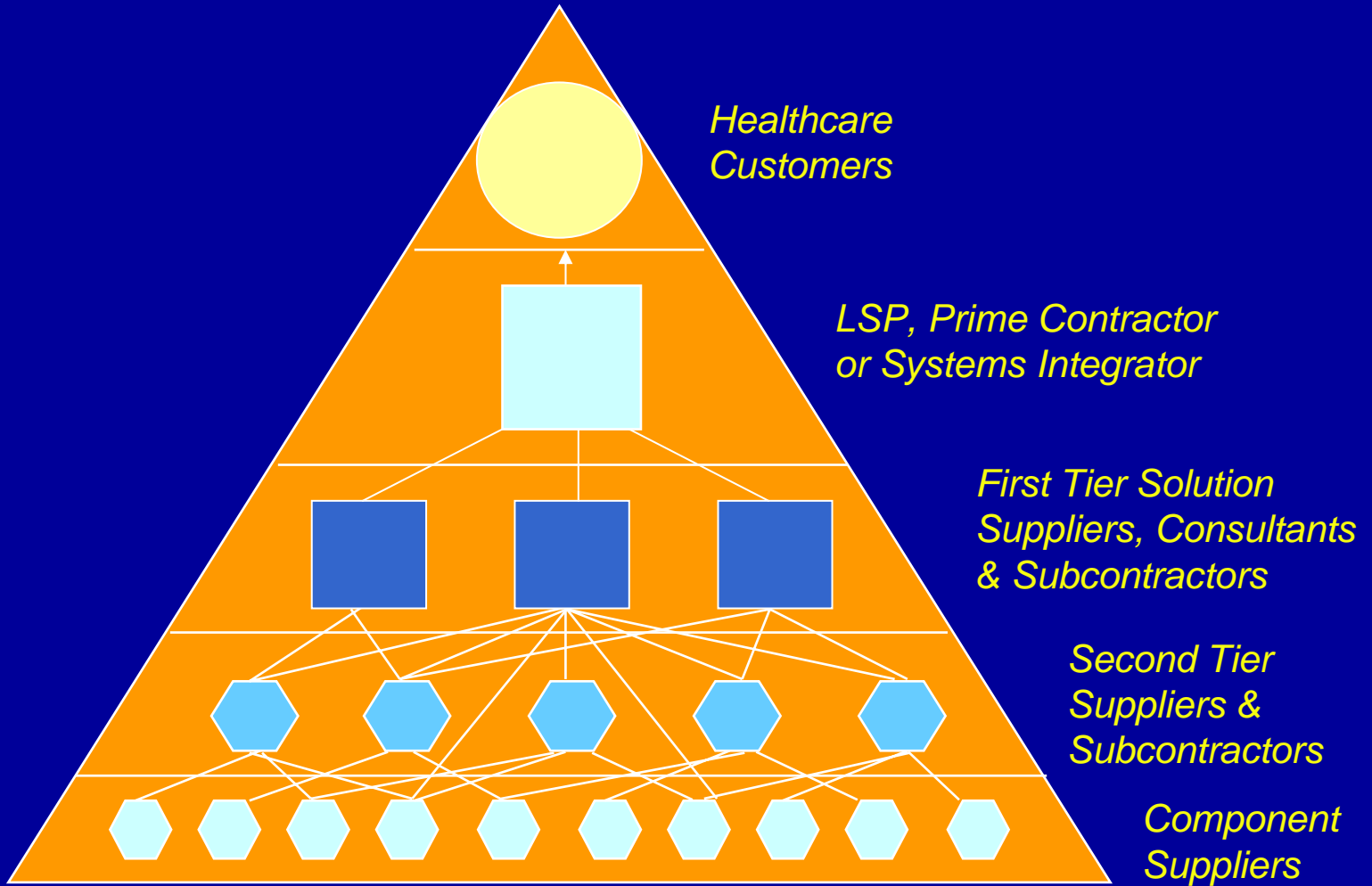
- *Range of biomedical devices for data collection*
- *Infrastructure to capture, transmit & store data*
- *Knowledge based systems to vet & analyse data*
- *IT enabled patient service providers to use data*
- *Extensive systems & data integration capabilities*
- *Funding provisions from large scale payers*
- *New strategic alliances as market matures*

*Partnerships and alliances will be key to the success of 'Whole System Long Term Conditions' demonstrator project*



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# New strategic approaches to Smart Procurement





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# Why Smart Procurement?

- *addressing practical IT project issues*
- Increasingly large scale IT projects
- Difficulty defining project end points
- Constantly extending project timescales
- Justifying increased overhead costs
- Incorporating transformational change
- Dealing with project complexity
- Shortening technology lifecycles
- Involving strategic industry input



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# Lessons from UK experience

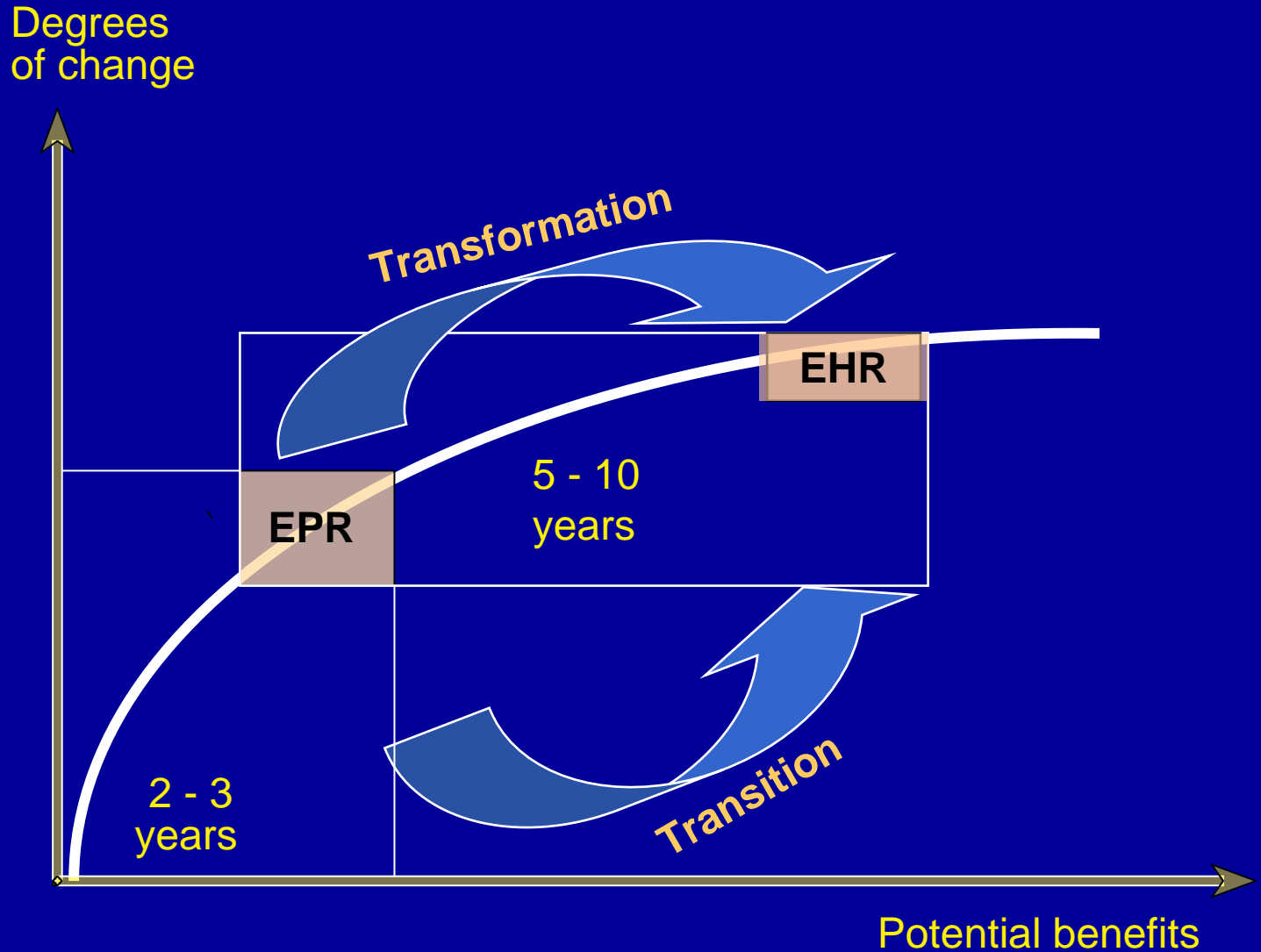
Significant problems encountered with:

- Mixing different types of procurement
- Trying to manipulate NHS market
- Driving very rapid procurement
- Negotiating restrictive contracts
- Estimating national transaction flows
- Enforcing rigid adherence to standards
- Limiting different end user options
- Integrating infrastructure & local apps



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# EHR rollout is a long term process





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*« We always over estimate the change that will occur in the next 2 years and under estimate the change that will occur in the next 10 years. »*

*Bill Gates  
Microsoft*