

# WCRE 2013 - Industry Panel Statement

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Jens Borchers - Application Management Services



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# Re(verse) Engineering in My Career

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## A look back across the decades

### → 1980's

- Operating Systems Migrations
  - UNISYS to IBM (including transaction processing) middleware
- Language Conversions
  - COBOL to COBOL (yes, no misspelling!)

### → 1990's

- Database Migrations
  - “Anything” (Hierarchical, Network, Indexed) to Relational
- Language/Framework Conversions
  - 4GL back to 3GL
- “The Golden Era” of RE-Projects and Technologies
  - Introduction of EURO in banking systems (Target date: January 1, 1999)
  - Y2K (Target Date: January 1, 2000)

### → 2000's

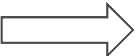
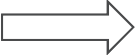
- All of the above + 3GL to OO Languages on-top

## Expectations and Real-life Experiences

### → The Initial Goal of Reverse Engineering

- Recreate the initial artefacts within the development process
  - Input: Existing source code making up the systems in operation
  - Output: Design or even requirement artefacts
- The famous “Sausage back to Pig” – Paradigm
  - To Be Doomed to Failure!

### → The Real Life of Reverse Engineering in Industrial Deployment

- The well-proven “Under the Hood” Technology for many RE approaches
  - Recover Technical Structural Information from Source Code
  - “First half” of conversion tools (identify syntactical constructs and store them in a language independent format)
- Technical Foundation for many Quality Management Approaches
  - Identify Programming Deficiencies  “Technical Debt Assessments”
  - During the last few years  “Security Vulnerabilities”

## Where Do We Apply It Today?

- Application Management Services
  - Outsourcing of “Run” and “Change” the Business Activities
- Deployment of RE Technologies
  - Initial Assessment at Time of Contract Negotiations
    - High Level Assessments of Source Quality (across all artefact types)
    - Basis for Contract Offering
  - Detailed Assessments at Time of Transition
    - “Due Diligence”, Calculation of Technical Debt
    - Create Master Plan for Quality Enhancements during Contract Life
    - Define Service Level Agreements for “Change the Business” Activities
  - Apply RE Technologies within Software Evolution Activities
    - Within Dedicated Projects to Evolve Software Significantly

## Bottom Line from my Perspective

- RE Technologies are Commodity
  - No “quantum leaps” for industrial usage during the last years
  
- RE Spectrum has been expanded
  - Combine program source assessments with operations key indicators
    - Correlations between complexity and production incidents
    - Correlations between intrinsic quality and change frequency
    - ....
  - Feed software data warehouse with data about software and process aspects
    - Apply data analytics on key indicators of large application portfolios
    - Better budget allocation with regard to life cycle indicators
    - Serve increasing compliance requirements (banking and finance)

Thank you for your attention!

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