Big Data - Changing Corporate Culture
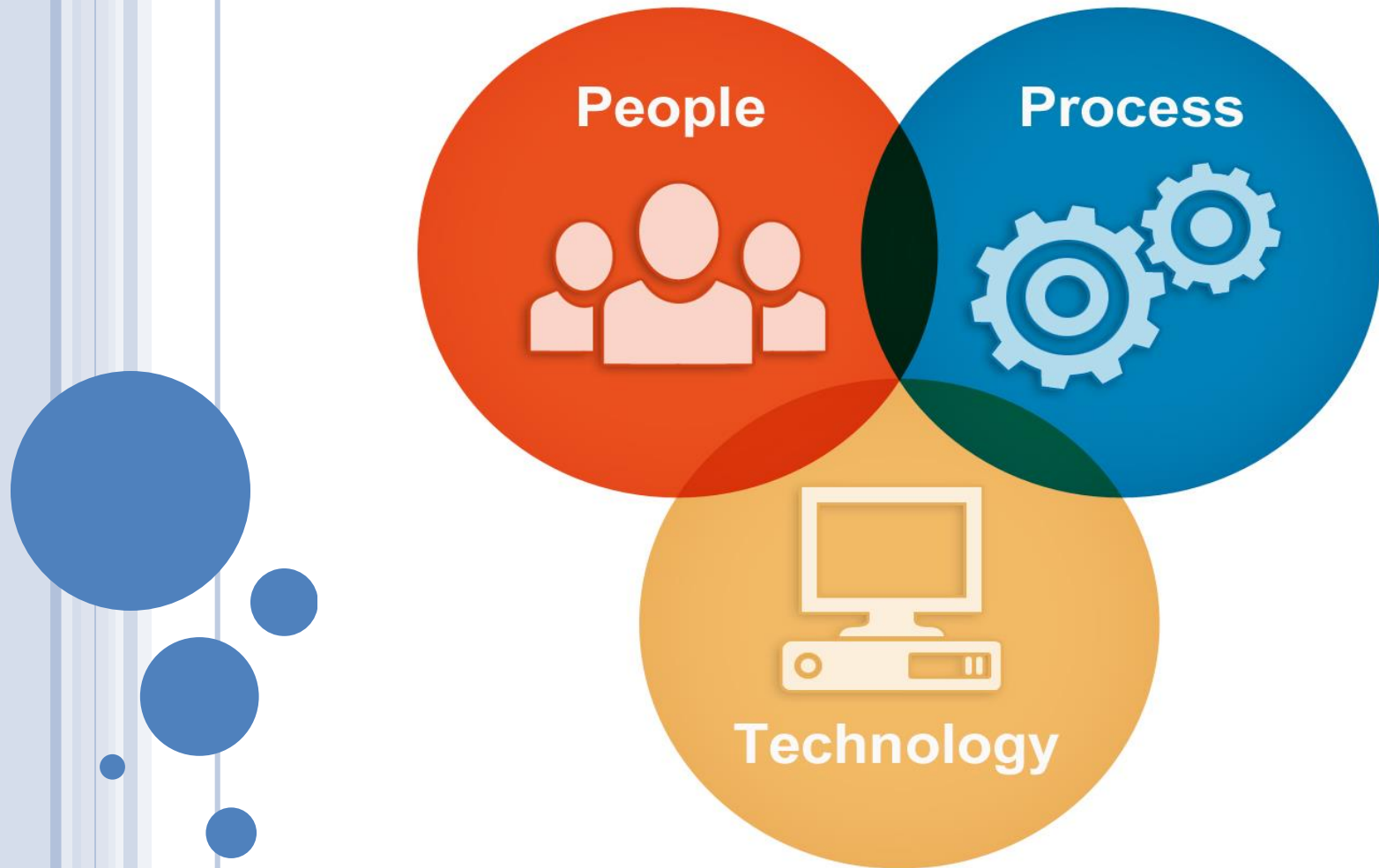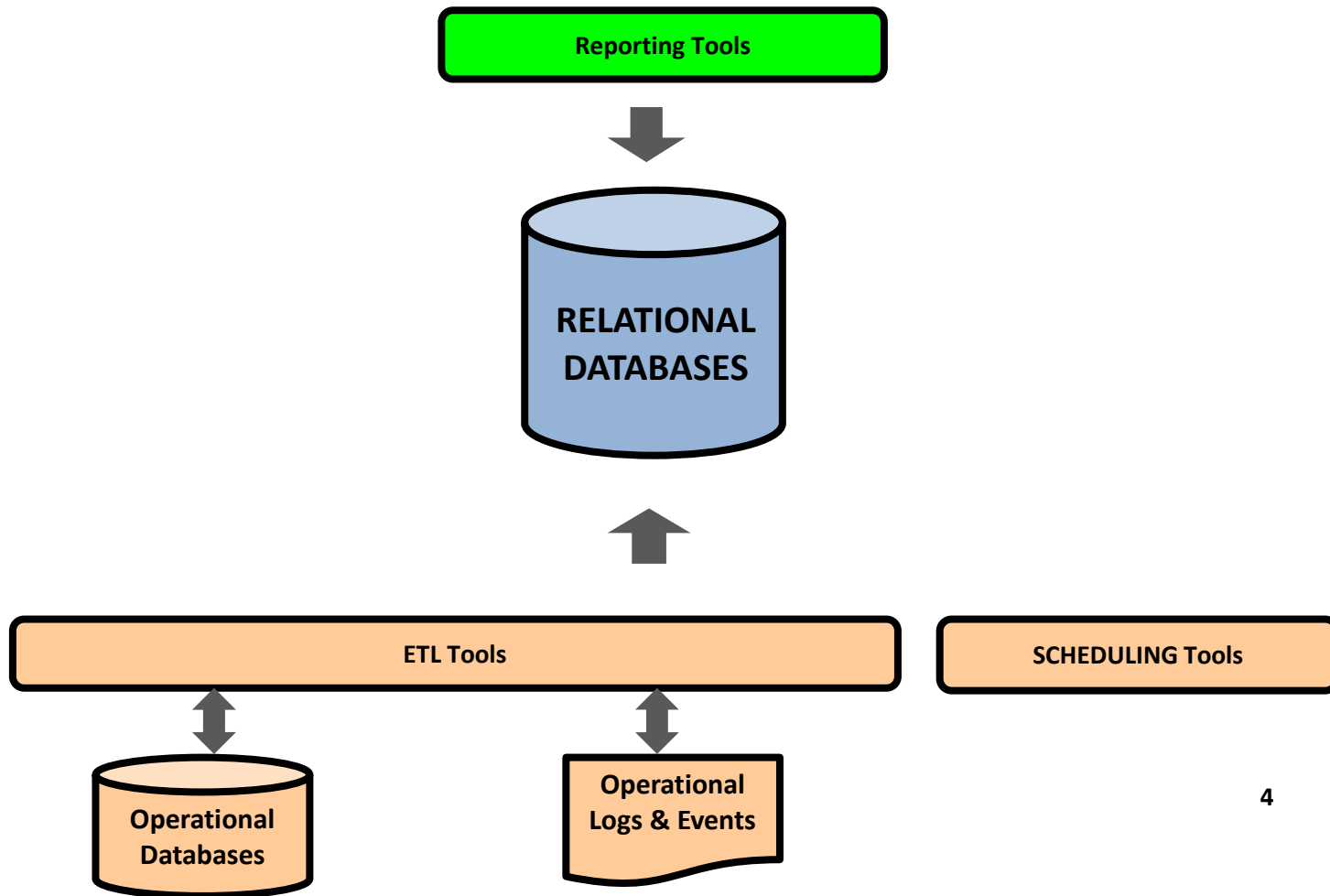
Dr. Chuck Brooks

Introduction

- While investment in big data is growing (*expected to [exceed $41 billion by 2018](#) according to market research firm IDC)* we are seeing a growing belief among organizations who've instituted big data projects: these projects aren't moving as quickly as they hoped (Brillio,2016).
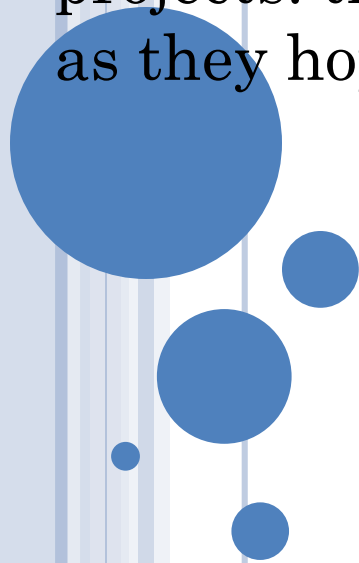
Changing Corporate Culture

The Old Data Management Technology

Reporting Tools

RELATIONAL DATABASES

ETL Tools

SCHEDULING Tools

Operational Databases

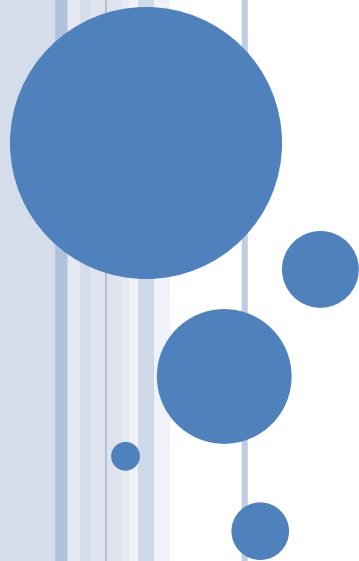**Operational Logs & Events**

4

The New Big Data Technology
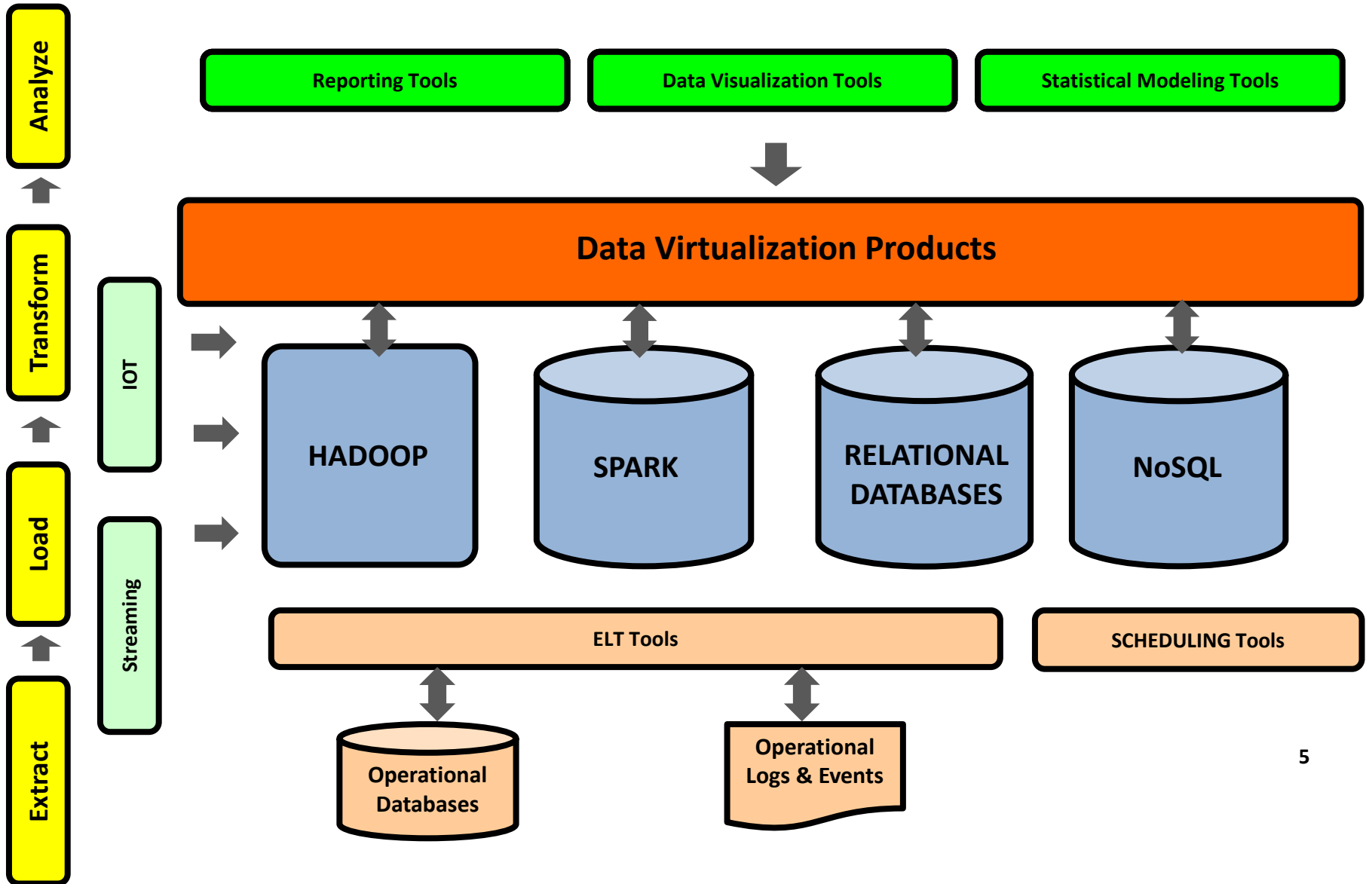
Technology Culture Changes

- How we manage data is changing
  - The 4 V's (Volume, Velocity, Variety and Veracity)
  - More tools – One size does not fit all. Use the right tool for the right job

People – New Roles

Data Scientist

- Building Models
- Validation/Testing
- Algorithms
- Continuous Improvement
- Knowledge of :
  - Statistics
  - Linear Algebra
  - Machine Learning
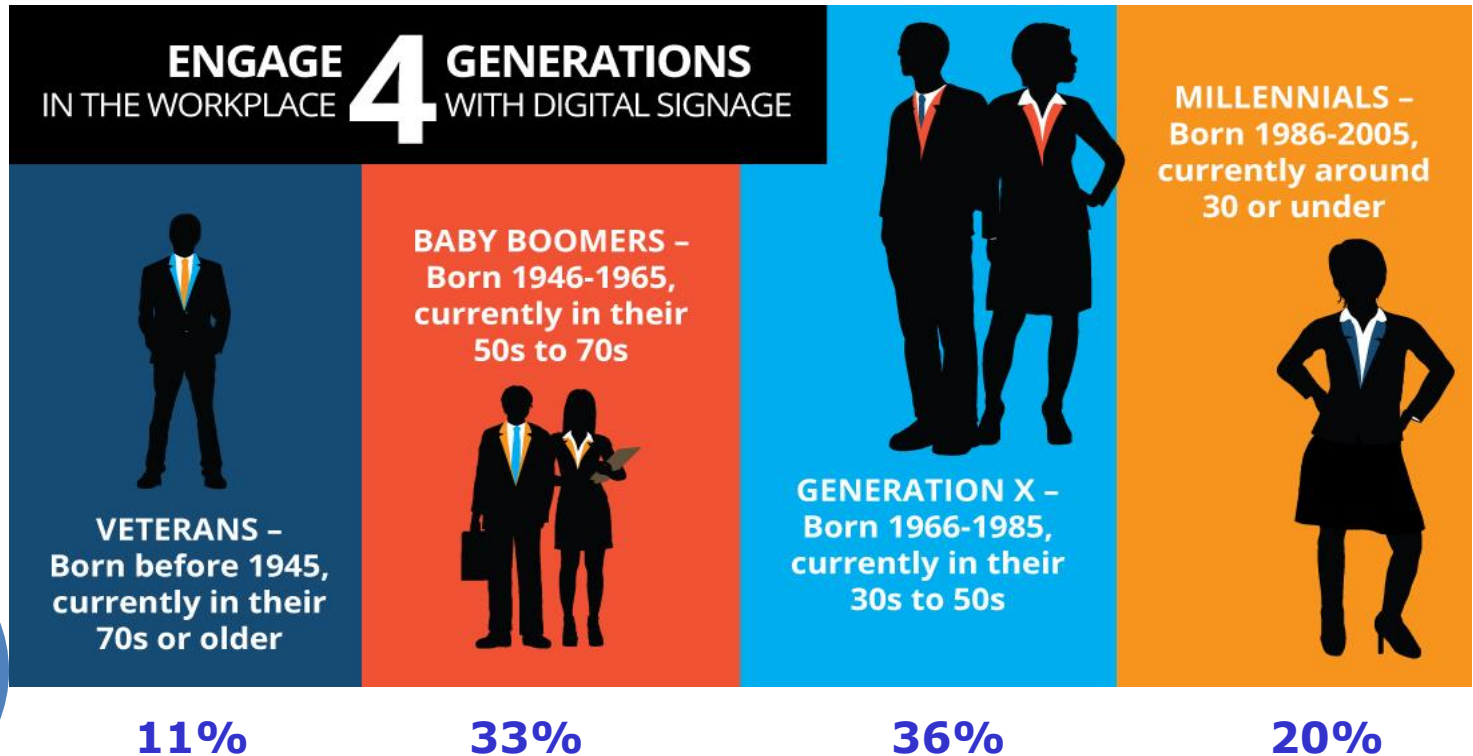 - R,Matlab etc.

Data Engineer

- Data Pipelines
- Manage Platforms
- Productionalize Algorithms
- Agile Development
- Knowledge of :
  - Platforms
  - Algorithms
  - Java, C++ etc.
  - Scripting languages like python

Data Analyst

- Deep Domain Knowledge
- Report Generation
- Data Exploration
- Hypotheses Testing
- Pattern Discovery
- Correlations
- Serendipitous Discovery

People – Changing Generations

ENGAGE IN THE WORKPLACE **4 GENERATIONS** WITH DIGITAL SIGNAGE

VETERANS – Born before 1945, currently in their 70s or older

BABY BOOMERS – Born 1946-1965, currently in their 50s to 70s

GENERATION X – Born 1966-1985, currently in their 30s to 50s

MILLENNIALS – Born 1986-2005, currently around 30 or under

11%   **33%**   **36%**   **20%**

1. Work-Life-Balance
2. Dress Code
3. Healthy Living
4. Office Environment
5. Leadership
6. Group Interaction

People Culture Changes

- The type of people we need and how we manage them is changing:
  - Data Scientists and Data Engineers need to show the "art of the possible"
  - Data Scientists and Data Engineers need in-depth understanding of business processes.
  - Analysts need to understand data
  - Analysts need to create their own content
  - Leadership is more complicated, leaders must have management, leadership and technology skills.
  - Change / update the workplace!

Process – SDLC / Waterfall is dead !
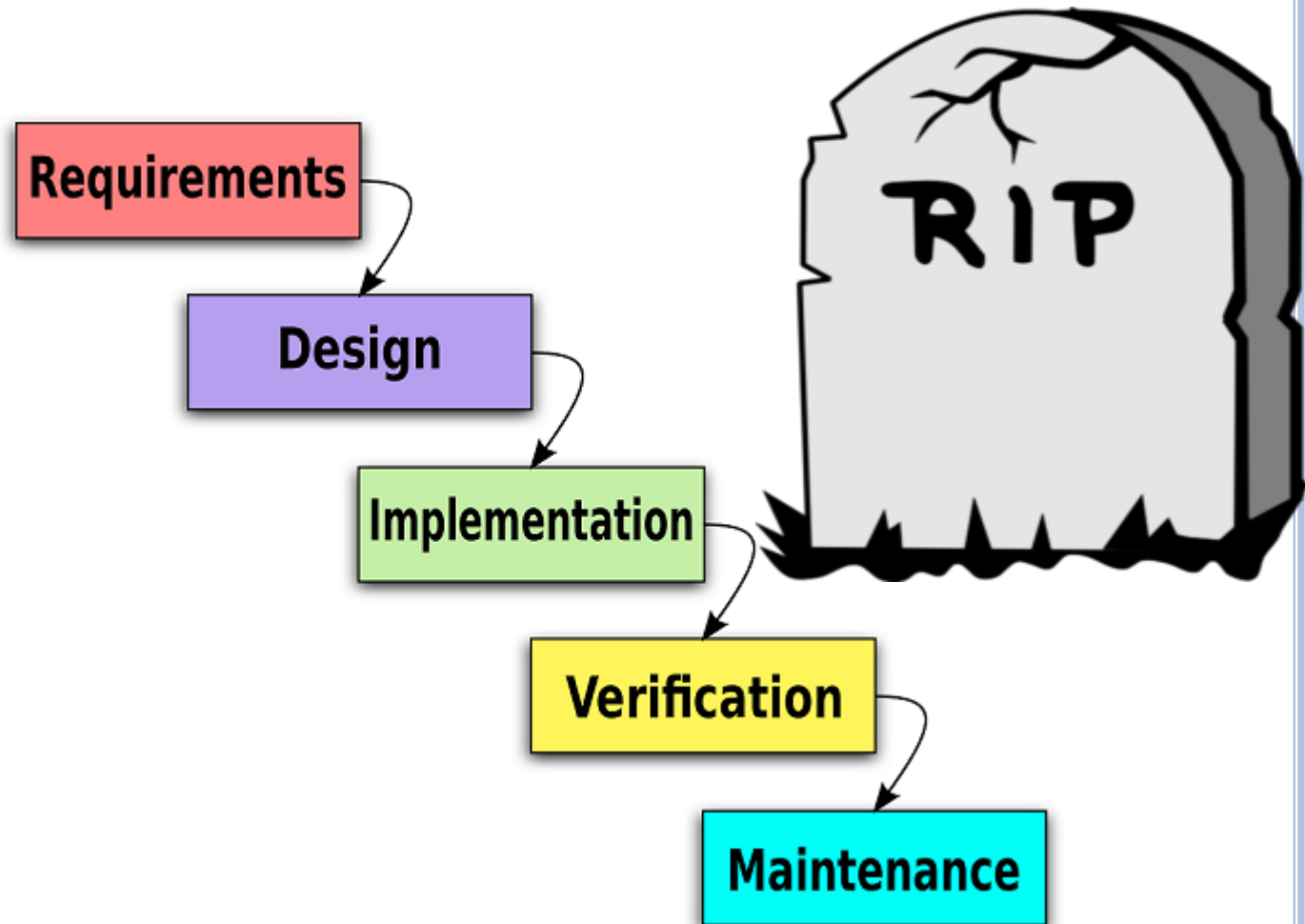
Process - Long live Agile !
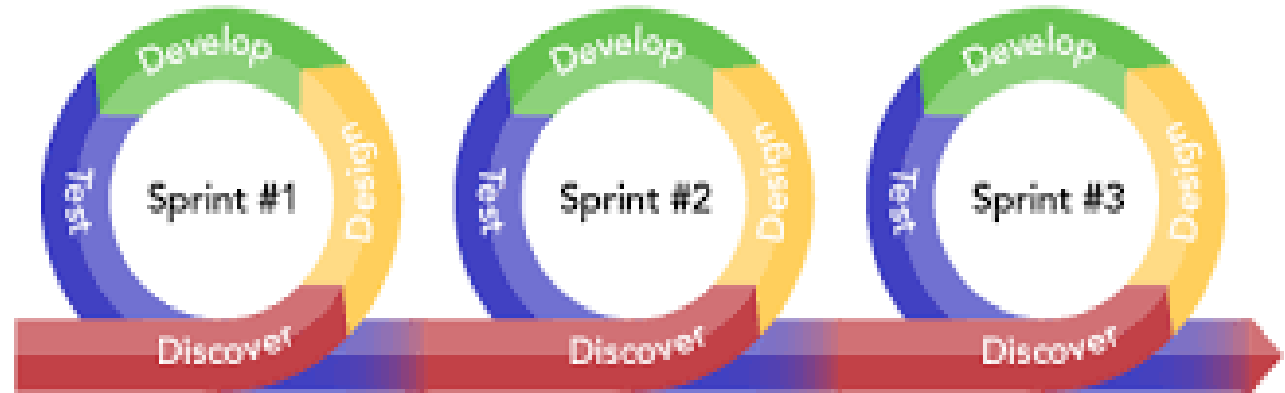
Agile Method

1. Action
2. Iterative
3. Interactive with the business
4. Accountable

Process Culture Changes

- We need less process restrictions!
- Fail/Succeed fast and move forward.
- Experimentation mindset and methodology
- Quick iterative deliverables (Agile)
- Faster project funding process
- Self-Service BI
- IT and Business Partners working together to save costs and generate revenue