MarkLogic WORLD 2017

The Best Database for Agile Development

Mike Armagost, Consulting Director, MarkLogic

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Welcome

Are you ready to talk about agile?

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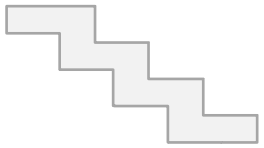
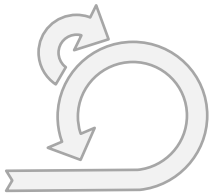
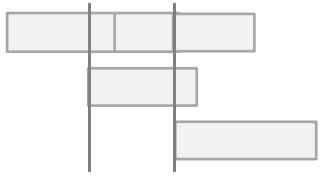
Methodologies Are Everywhere



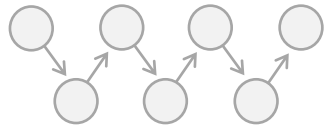
WATERFALL



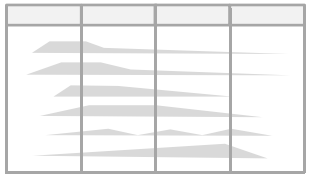
AGILE



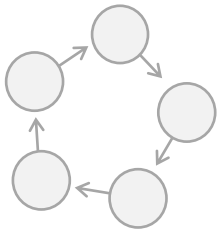
CRITICAL CHAIN



PRiSM



RUP



SIX SIGMA

KANBAN

MORE

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Methodologies Are Everywhere

goal = **SUCCESSFUL PROJECTS**

RUP

SIX SIGMA

KANBAN

MORE

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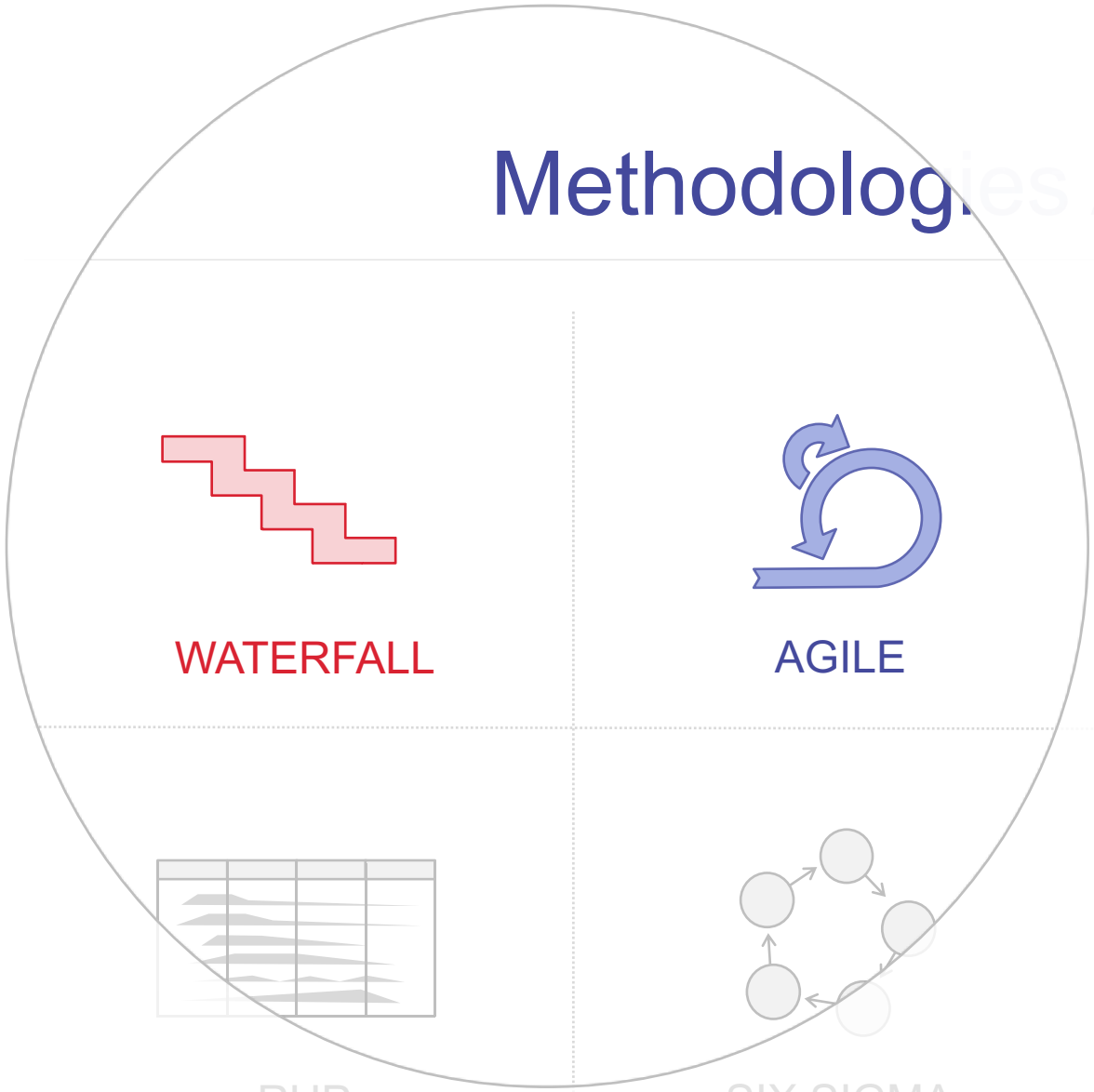
Methodologies Are Everywhere



KANBAN

MORE

The focus of this presentation

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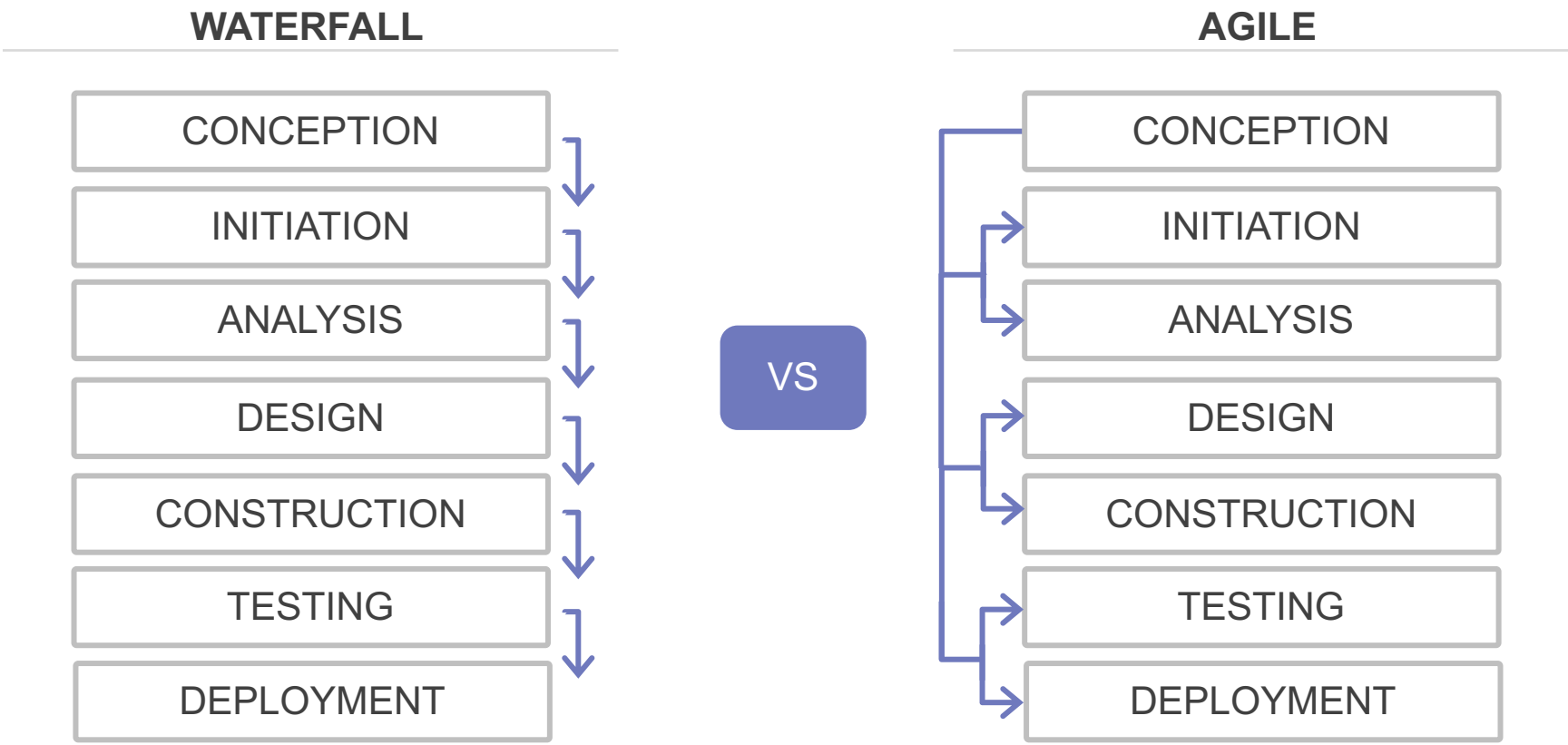
DIFFERENT TOOLS

Waterfall vs. Agile



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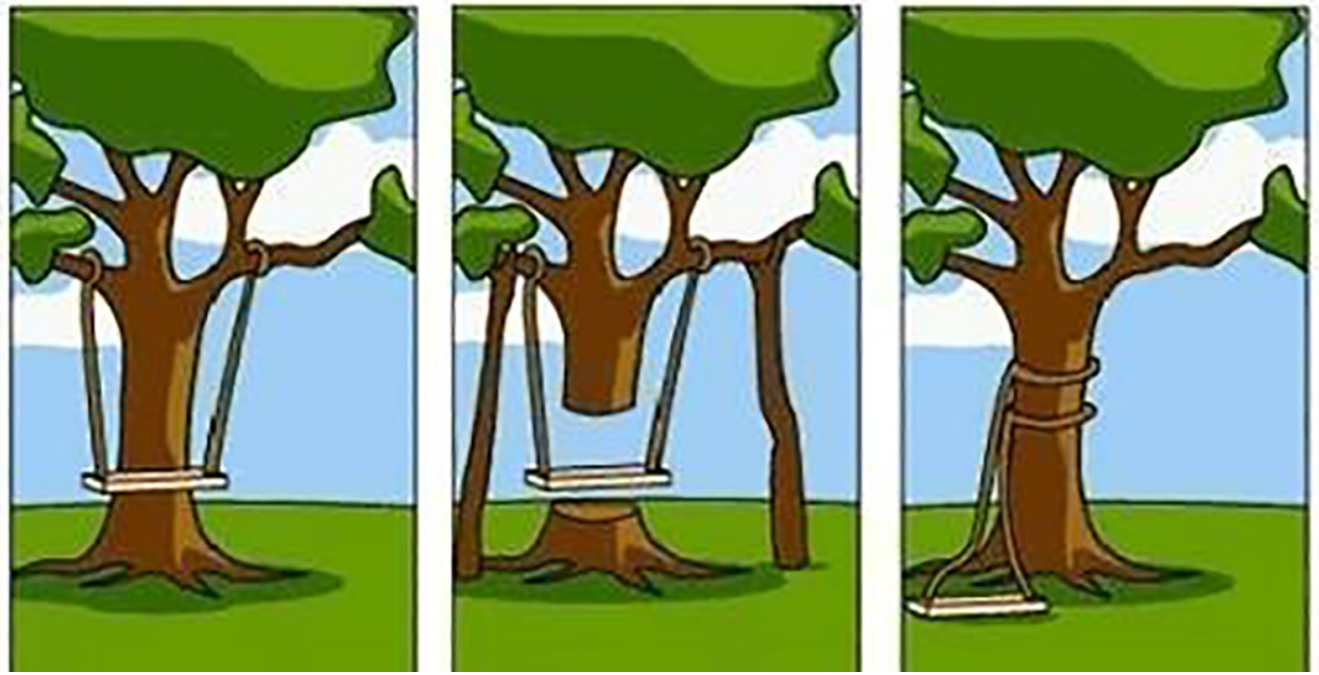
RESULTS

The Waterfall Approach Is Broken

DESIGN

DELIVERY



a. b. c.

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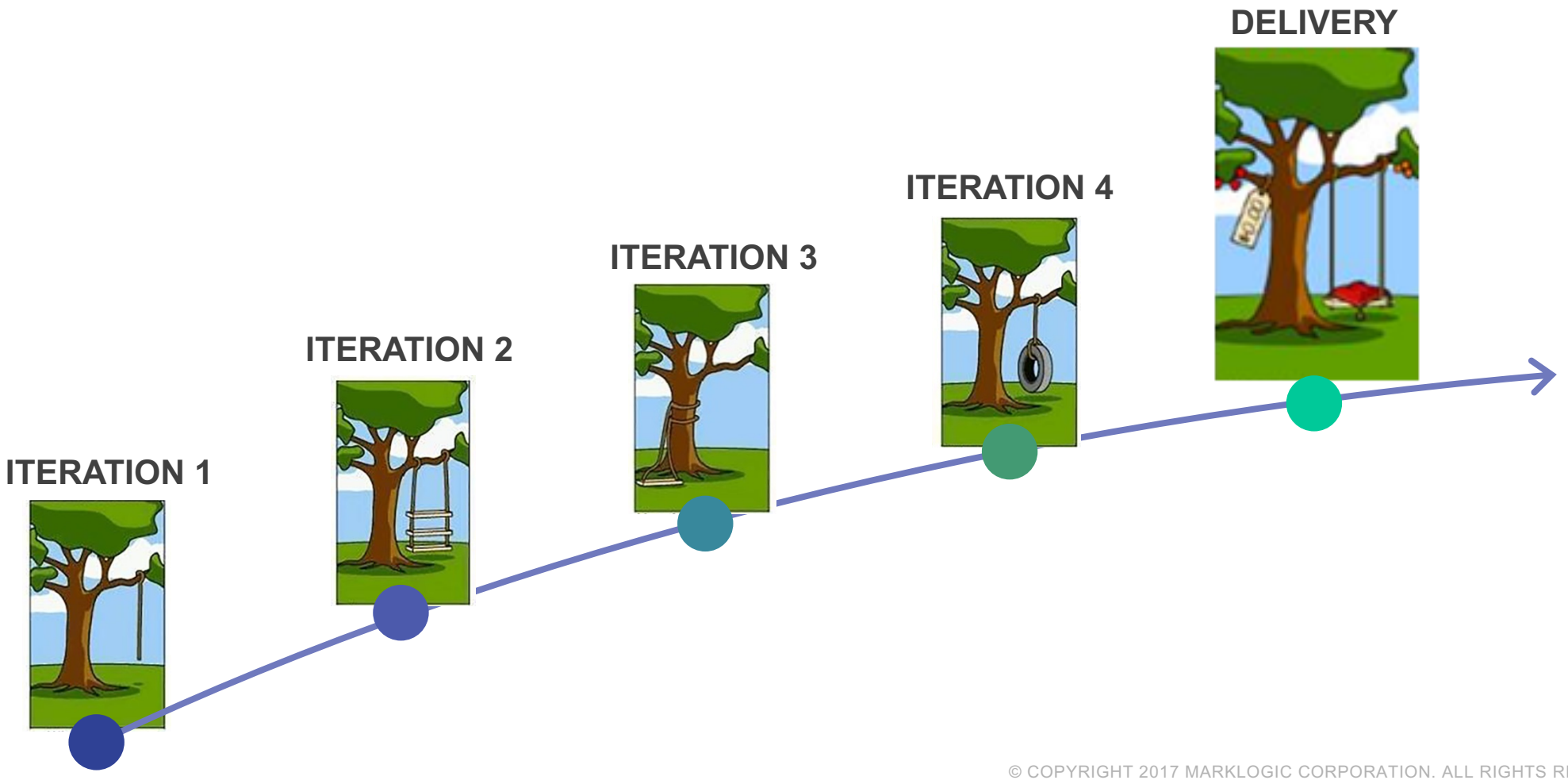
The Agile Approach Is Iterative and Less Risky



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Let's Play a Game – Round 1

Which of the below are actual of the twelve tenants of Agile?

A. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software

B. Faster is always better

C. Simplicity - the art of maximizing the amount of work not done--is essential.

D. Dogs are better than cats

E. All of the above

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Let's Play a Game – Round 2

Which of the below are one of the twelve tenants of Agile?

A. Management of the individual contributor is essential

B. Working software is the primary measure of progress.

C. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

D. There's no good music these days

E. None of the above

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B. Working software is the primary measure of progress.

C. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

There's no good music these days

The business owners are the best arbiters of design decisions

None of the above

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Let's Play a Game – Round 3

Which of the below are one of the twelve tenants of Agile?

A. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

B. Business people and developers must work together daily throughout the project

C. Delivery to well defined requirements is essential to success

D. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely

E. Han shot first

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Tenants of Agile

1. Our **highest priority is to satisfy the customer** through early and continuous delivery of valuable software.
2. **Welcome changing requirements**, even late in development. Agile processes harness change for the customer's competitive advantage.
3. **Deliver working software frequently**, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
4. **Business people and developers must work together** daily throughout the project.
5. Build projects around motivated individuals. Give them the environment and support they need, and **trust them to get the job done.**
6. The most efficient and effective method of conveying information to and within a development team is **face-to-face conversation**.
7. **Working software is the primary measure of progress**.
8. Agile processes promote **sustainable development**. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
9. Continuous attention to **technical excellence and good design** enhances agility.
10. **Simplicity**--the art of maximizing the amount of work not done--is essential.
11. The best architectures, requirements, and designs emerge from **self-organizing teams**.
12. At regular intervals, the team reflects on how to become more effective, **then tunes and adjusts** its behavior accordingly.

Source: Agile Alliance

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An Example

- A large government agency
- All military services working towards a single goal
- Originally attempted with Waterfall
- Conflicting agendas made success unobtainable
- Switched to Agile
- Able to succeed by breaking into small bites everyone could agree upon

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Life Is Complex, So Are Projects

80%

Of data scientists' time is spent collecting and preparing unruly data before it can be explored for useful nuggets

Source: Steve Lohr, New York Times

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Life Is Complex, So Are Projects

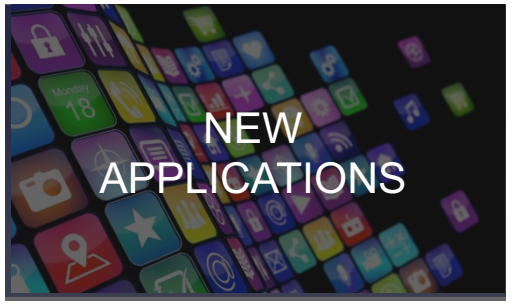
6.4%

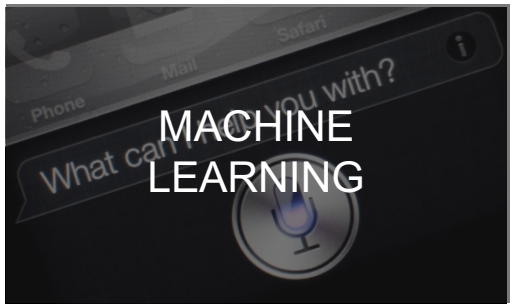
That's the success rate of IT projects according to one study of 3,555 public and private sector projects

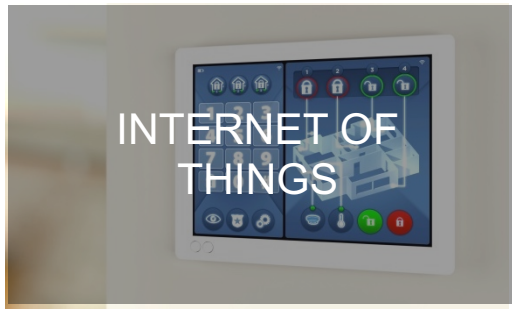
Source: ComputerWorld, reporting on a study going from 2003 to 2012.

Your **business** is changing…

Your **data & infrastructure** are changing…







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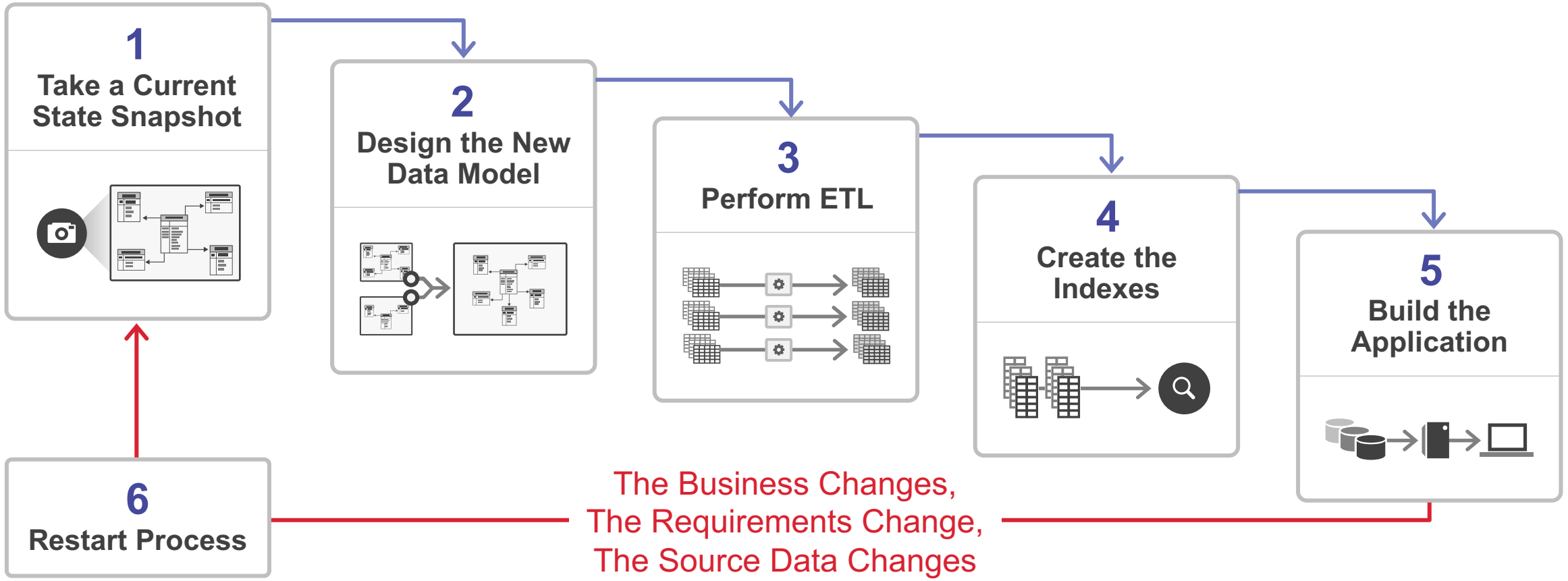
The Problem With the Traditional Approach



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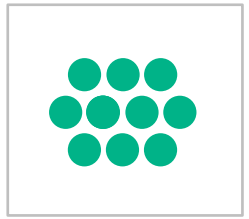
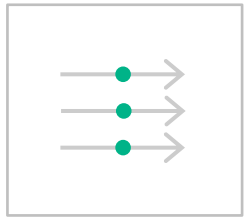
A NEW APPROACH

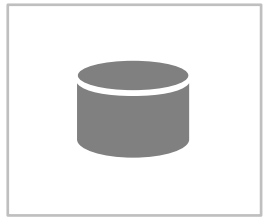
Expect That Over Time, *Everything* Can Change, at Any Time



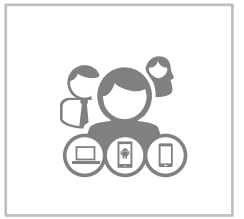
DATA



WHERE DATA COMES FROM



HOW DATA IS ACCESSED



WHO ACCESSES THE DATA

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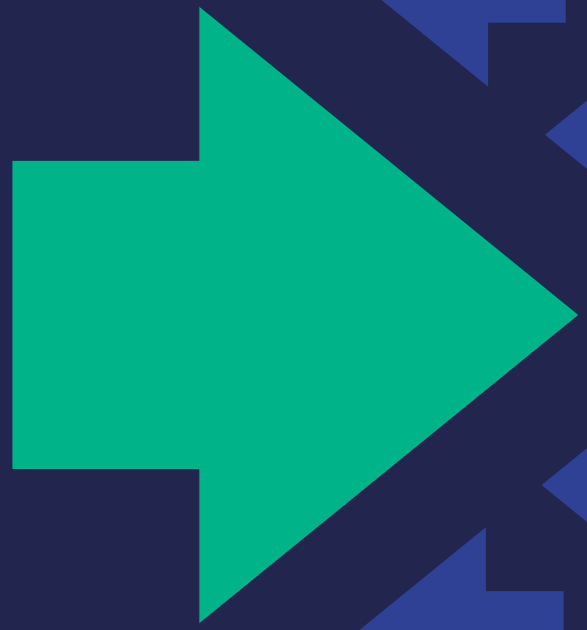
AGILE IS DISRUPTIVE & CHANGE IS HARD



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Why Agile with MarkLogic?

- You can follow the data and respond to business users
- You are not anchored to a predefine schema
- You can handle disparate data types with ease
- You get value immediately, even if you haven't identified all your data sources

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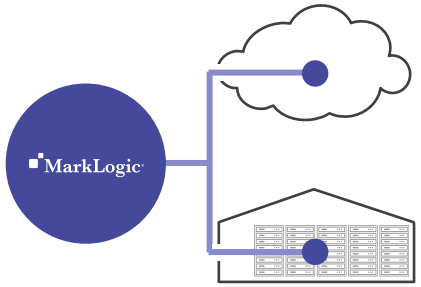
MARKLOGIC APPROACH TO DATA INTEGRATION

1 Ingest Data As-Is

2 Access the Data

3 Harmonize & Enrich the Data

4 Operationalize



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Agile Development Needs Agile Data

What is agile data?

- Data that is “able to move quickly and easily”

To support agile data we need:

1. Bring the data in quickly and flexibly
2. Search and query in real-time
3. Harmonize and enrich the data “in situ”
4. Operationalize and expose the data as needed

Of course we still need to persist the data in a reliable and secure fashion.

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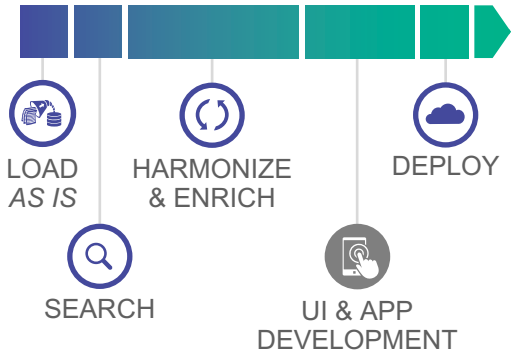
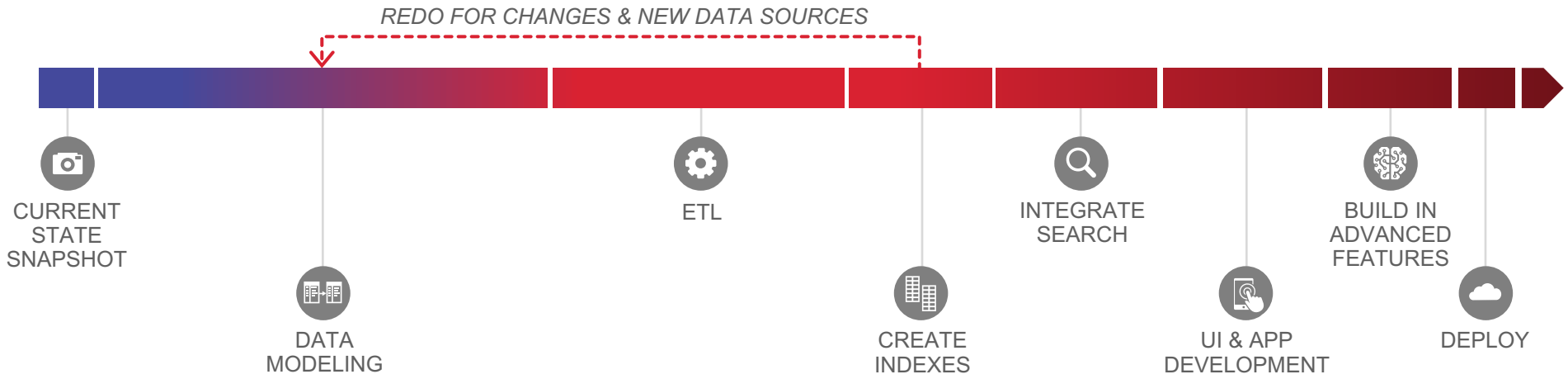
THE MARKLOGIC ALTERNATIVE

Immediate Value, Faster Time to Results

MARKLOGIC APPROACH



RELATIONAL APPROACH



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Scrum, Code, and Instance Management

- Use a code management tool:
  - Unfuddle, Jira, Gradle, GitHub, flavor of the month
- Plan your instances:
  - Minimum – Dev, Test, Prod
  - We highly recommend at least one Test instance to be an EXACT image of Prod

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MARKLOGIC & AGILE

Rinse, Lather, Repeat

- You need to develop repeatable, measureable, and testable processes
- ***REWORK*** is not a dirty word
- MarkLogic is easy to back up and wipe clean

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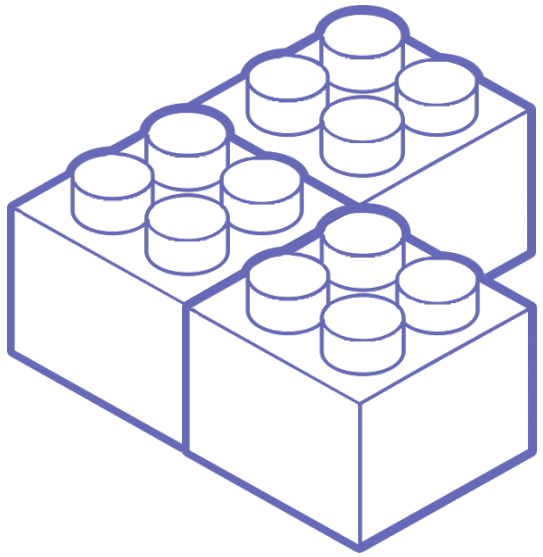

MARKLOGIC & AGILE

Build In Unit Tests

- Confident rework
- Always prepared

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MARKLOGIC & AGILE

Standards, Standards, Standards

- Establish code standards
- Publish to the team
- Enforce the standards

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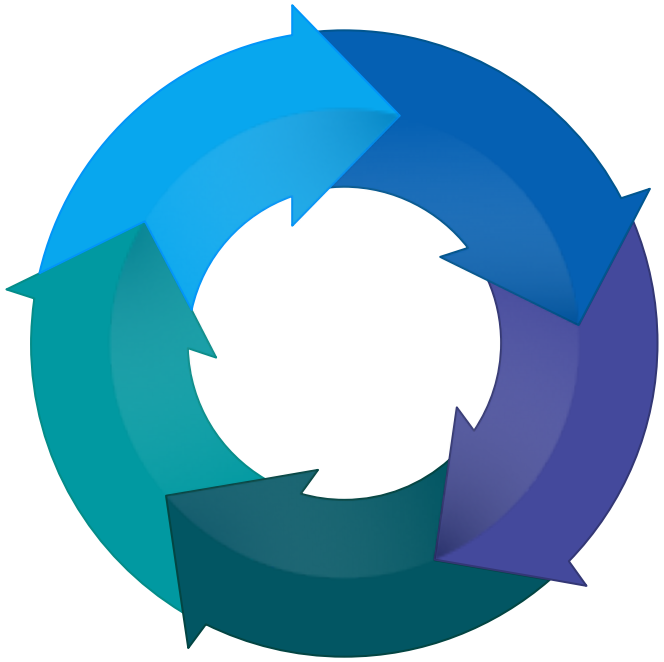

MARKLOGIC & AGILE

Review & Adapt

- Keep what works
- Change what doesn't

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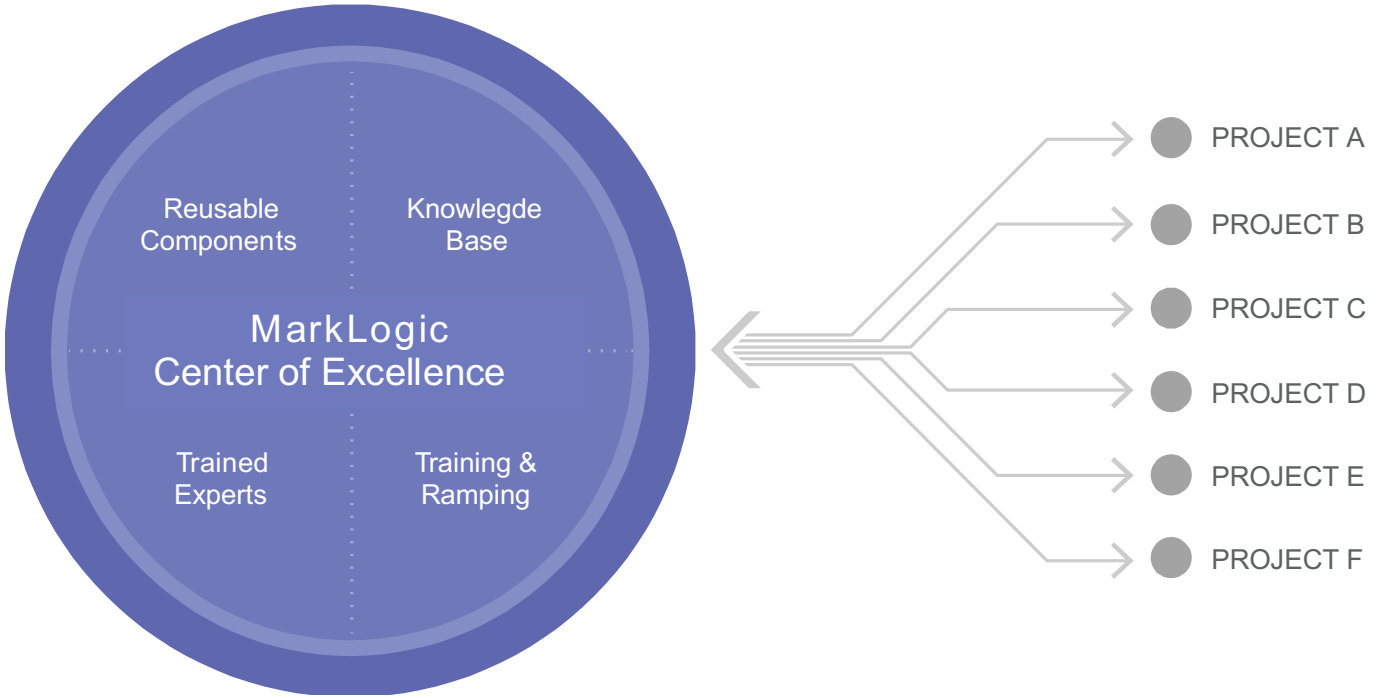
MLCS Driven COEs Help Make MarkLogic a Standard

A MarkLogic Center of Excellence provides governance, processes and technology expertise

Improve Quality | Increase Efficiency | Decrease Cost | Reduce Risk



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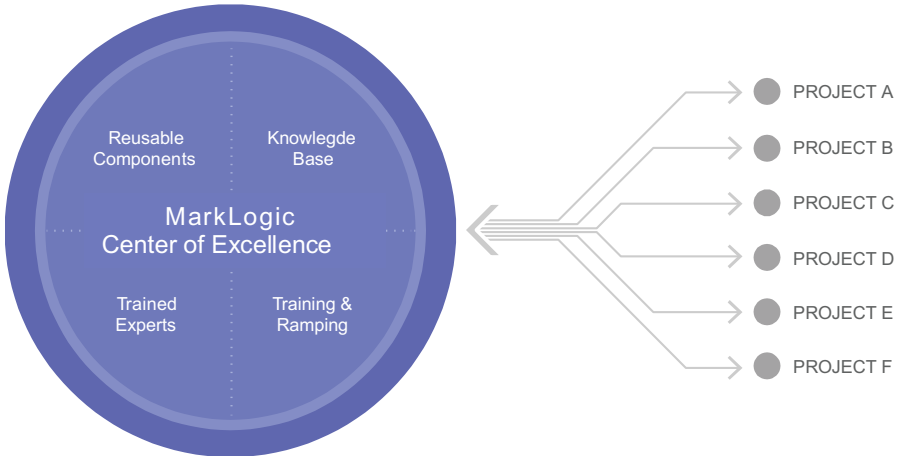

CENTER OF EXCELLENCE

Why a COE?

- Organizations with more than one MarkLogic project should establish a COE
- Consolidates MarkLogic SME's
- Establishes and maintains baseline configuration and practices

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Resources

- Agile Alliance
  - https://www.agilealliance.org/
- Plan for Success
  - http://www.marklogic.com/resources/plan-success-high-stakes-data-projects/
- Load *as is*
  - http://www.marklogic.com/blog/understanding-the-load-as-is-pattern/
- Rethink data modeling
  - http://www.marklogic.com/resources/rethink-data-modeling/

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Questions?

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