Information Management RoadMap: from "Content to Context"

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Technical Trends

Software Applications

- **Best in breed**
- **Scalable, collaborative visualization**
- **Increased use of thin clients**

Information Management

- **Data gathering explosion**
- **Information to knowledge**
- **Integration with business software**

Software Architecture & Frameworks

- **Modularity, towards "plug & play"**
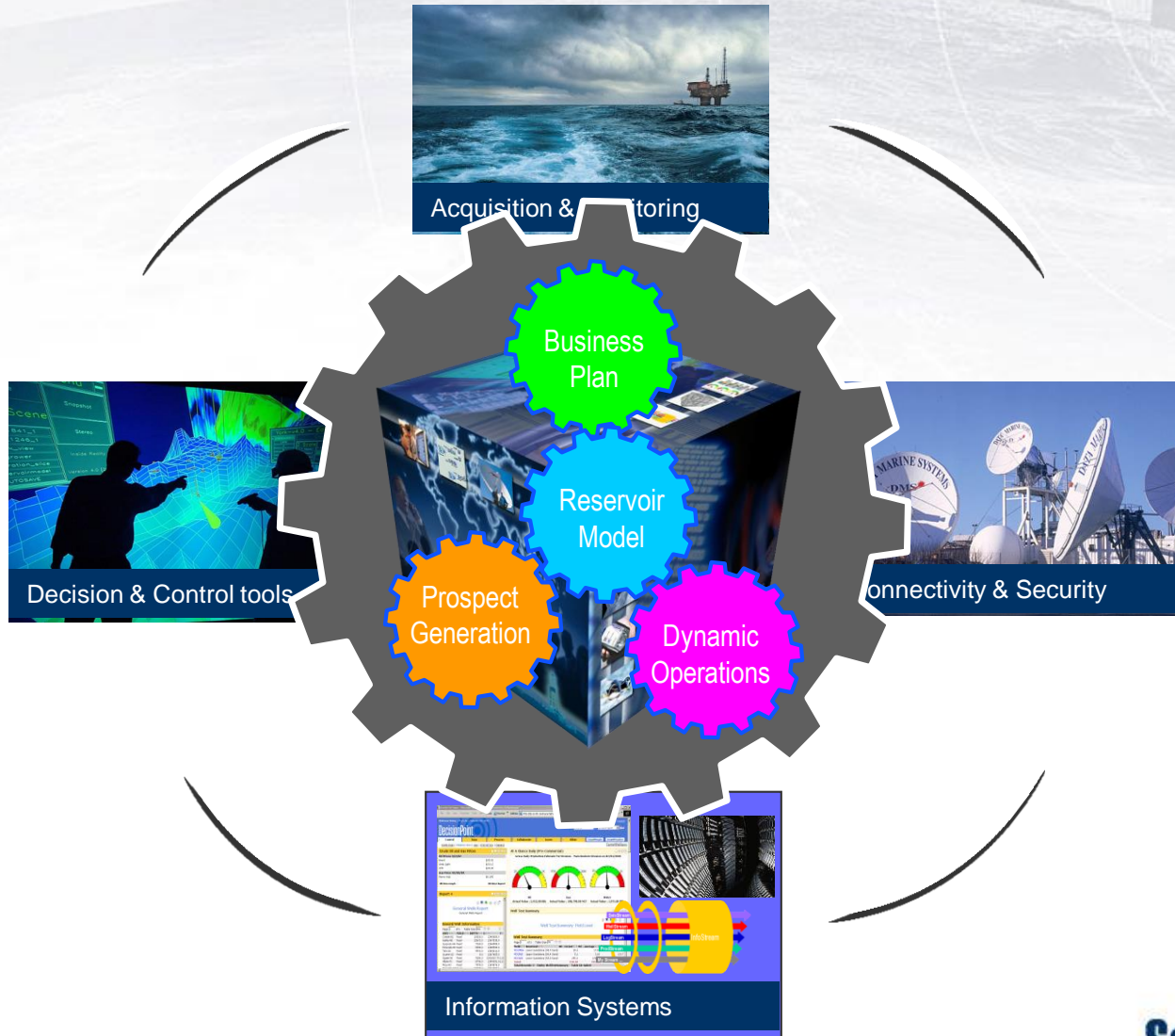- **Open standards for data exchange**
- **Workflow integration**

Computing Infrastructure

- **Flexible deployment**
- **Cost/performance optimization**
- **Network rig, office & partners**

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Enabling Critical Business Processes

Acquisition & Monitoring

Business Plan

Reservoir Model

Prospect Generation

Dynamic Operations

Decision & Control tools

Connectivity & Security

Information Systems

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Data flows and Workflows

InfoStream –
Optimizing Information Flows

Exploration Workflow
Drilling Workflow
Operations Workflow
Production Workflow
Business Workflow

Seismic Information

Well Information

Log Information

Production Information

… Information

Notable Recent Successes

- **Defining business processes**

- **Clarifying the data flows**

- **Implementing Integration**
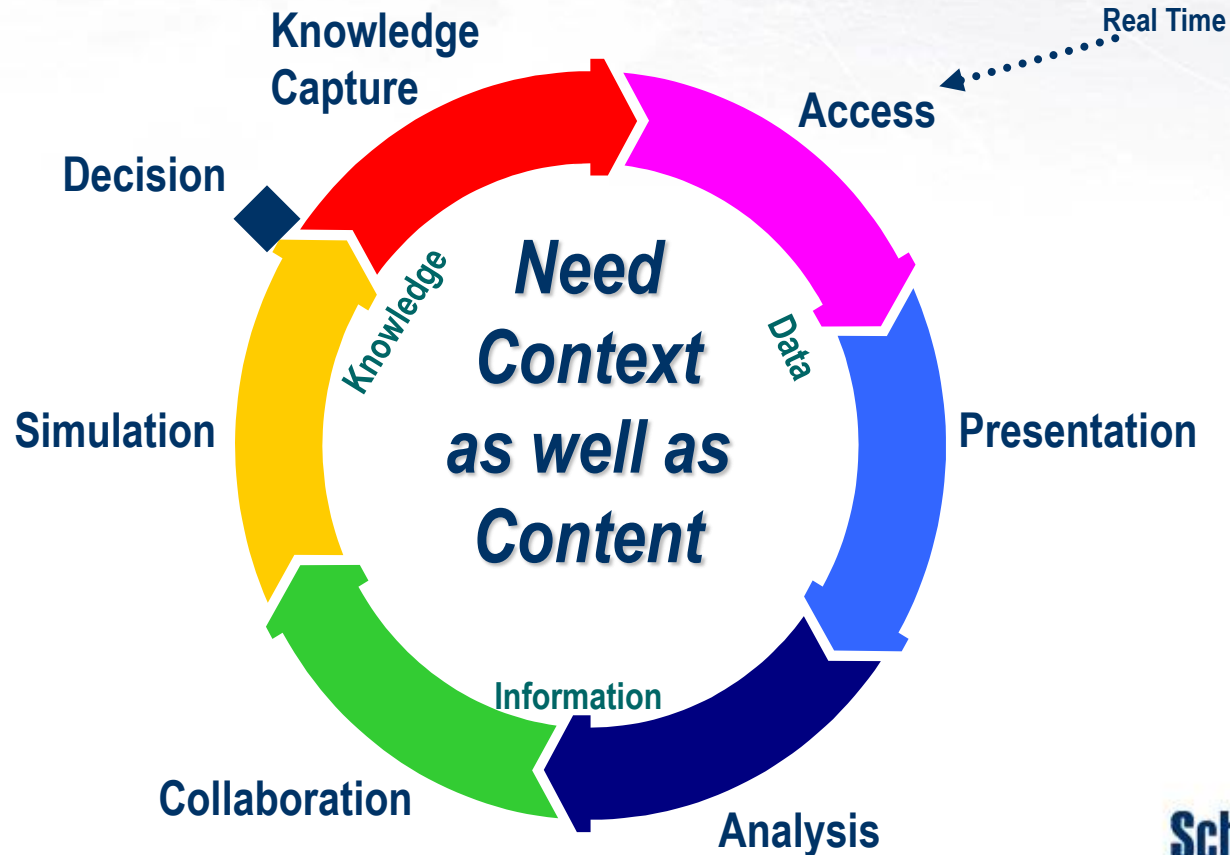 - **The Integration Spectrum**

- **Focus on Managing Data Content**

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Market Input

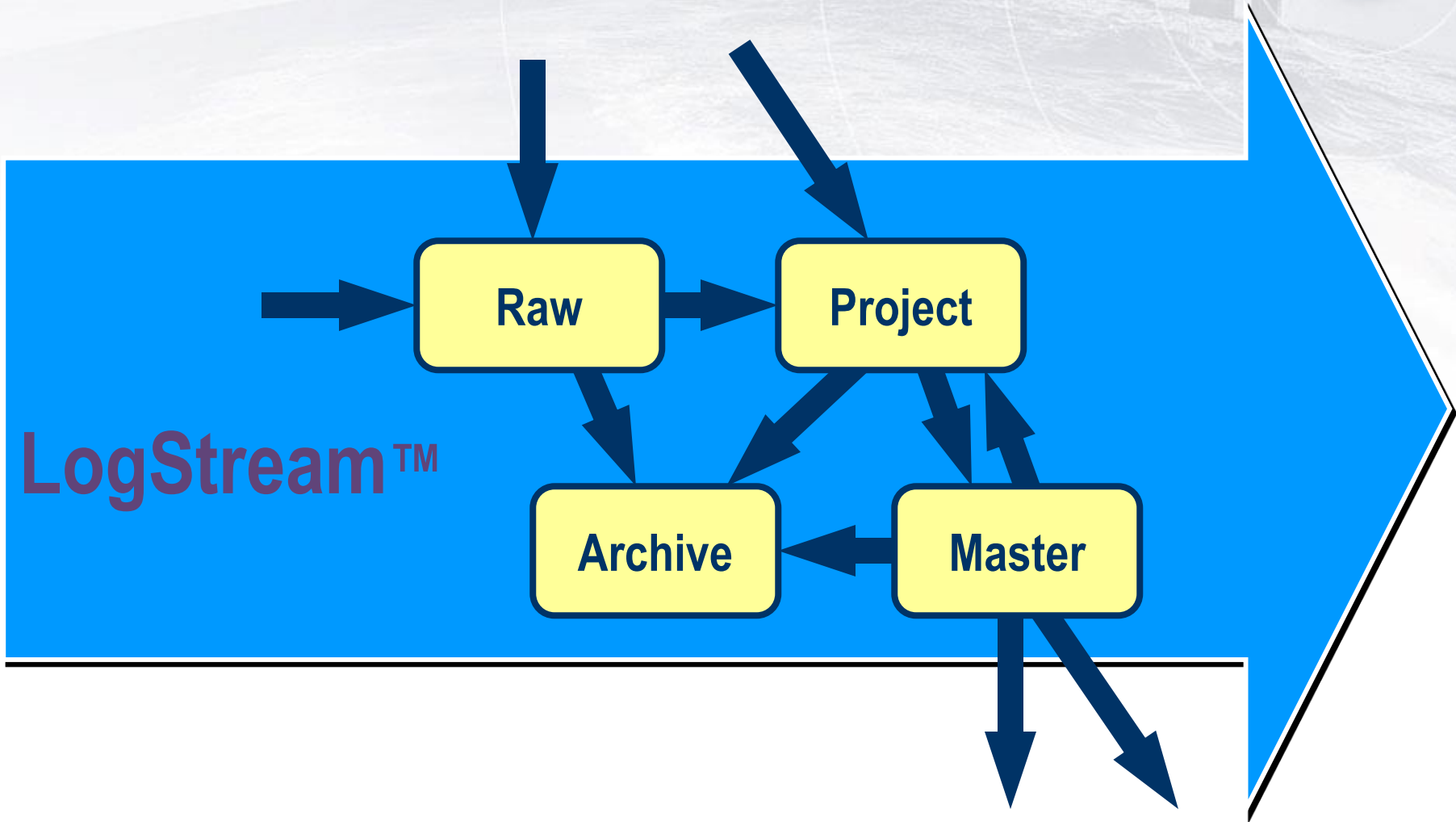*What we have heard from our customers….*

- *"Access and manage information in multiple content sources supplied by third parties and internal systems"*

- *"Increased data capture and better integration"*

- *"We're moving to lower cost hardware"*

- *"I need to connect my teams across business units"*

- *"Knowledge retention is critical"*

- *"Operational to project to master to results dilemma"*

- *"We are drowning in data, yet starving for information"*

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Managing Content is not Enough

> "quality and context of the data is key to re-use,
> knowing what, who, when, and why… "

Need Context as well as Content

- Knowledge Capture
- Decision
- Simulation
- Collaboration
- Analysis
- Presentation
- Access
- Real Time

Knowledge · Data · Information

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Data Roles within a stream

LogStream™

Raw → Project
Raw → Archive
Project → Archive
Project → Master
Master → Archive

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Typical data roles

Raw

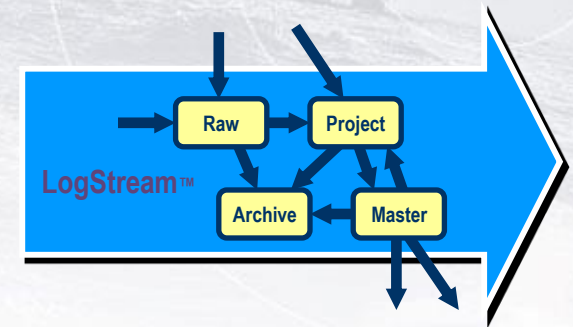- **Rapid availability, fidelity rather than quality**

Project

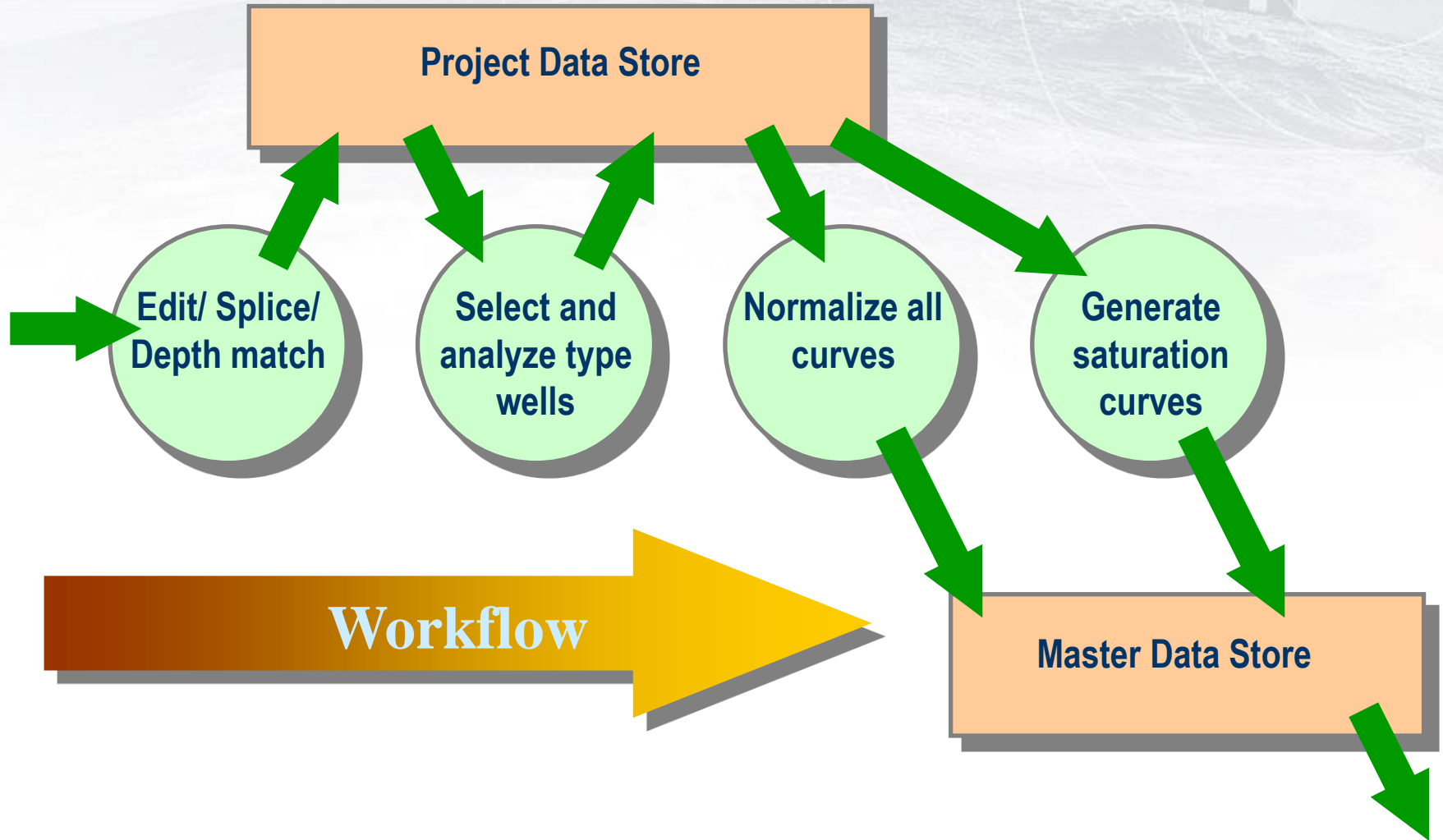- **Suitable, convenient, flexibility rather than precision**

Master

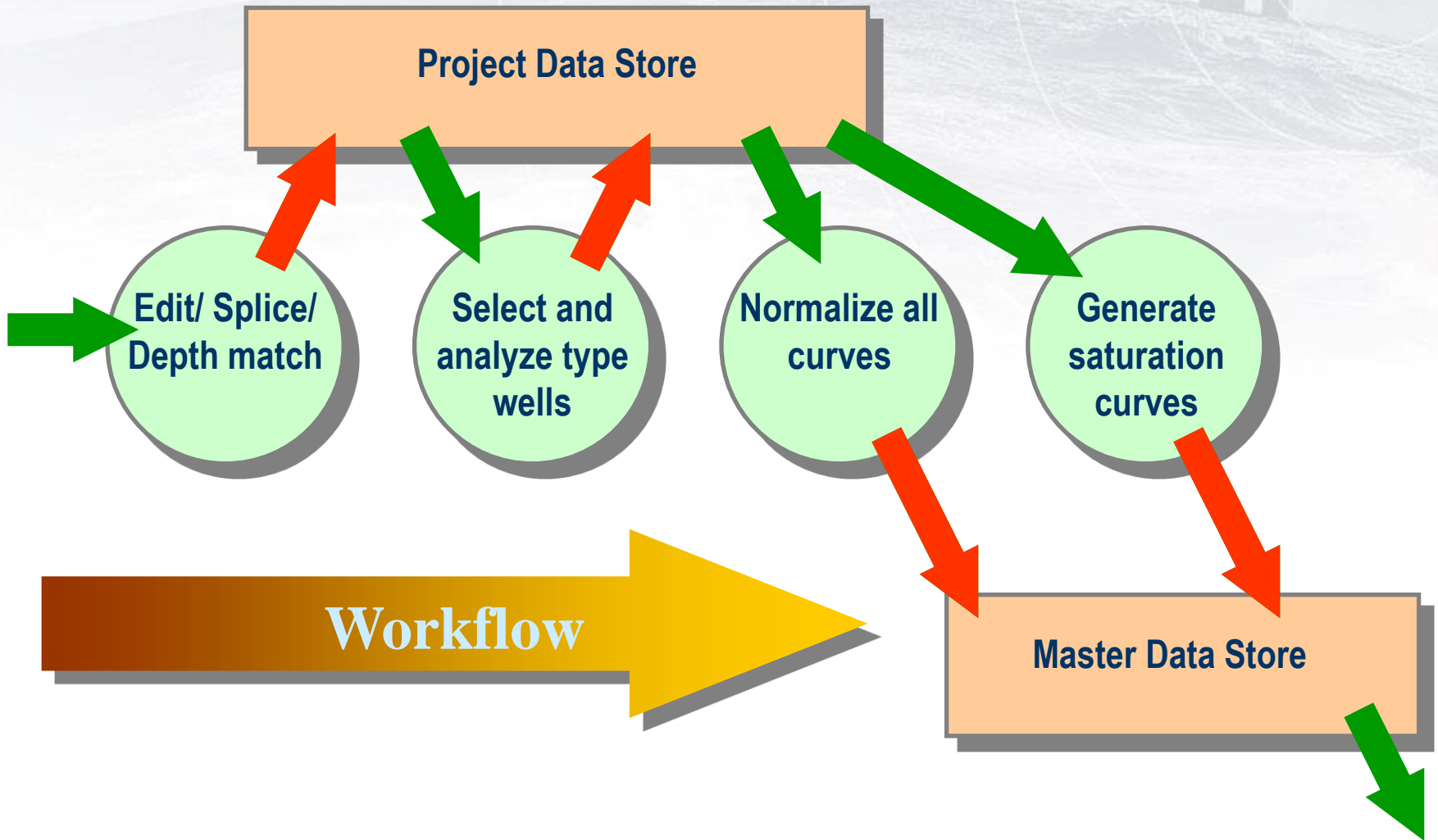- **Quality checked, accountable, trusted rather than easy**

Archive

- **Long term, recoverable, longevity rather than convenience**

LogStream™ — Raw, Project, Archive, Master

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Typical LogStream workflow

Project Data Store

Edit/ Splice/ Depth match

Select and analyze type wells

Normalize all curves

Generate saturation curves

Workflow

Master Data Store

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Results

Project Data Store

Edit/ Splice/ Depth match

Select and analyze type wells

Normalize all curves

Generate saturation curves

Workflow

Master Data Store

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Results

- Hold the data that led to the result
  - Underlying data
  - Parameters
  - Assumptions

- Keep all results (not just the final ones)

- Validate the decision

- Allows later reworking of steps in the workflow

- Content <u>and</u> Context

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