

DELIVERING REAL-TIME RESULTS

The Future of Laboratory Operations

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Bob Tuttle, CEO
Agile Frameworks



Jim Murphy, CEO
Strata, Inc.

Challenges Facing CoMET Firms

Information Management

- Efficiency
 - Non-redundant input
- Veracity
 - Accuracy
 - Quality
 - Verification
- Dissemination
 - Timeliness for impact
- Retention
 - Contractual/jurisdictional/legal obligations
 - Security
 - Auditability

Moving CoMET Firms into the Future

- Understand desired outcomes
- Map the necessary process workflow
- Harness tools (technology) to achieve outcomes
- Audit and continuously evolve

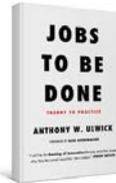
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FRAMEWORK TO MAKE THIS HAPPEN:

Outcome Driven Innovation & Jobs to be Done

Outcome Driven Innovation & Jobs to be Done

JTBD: A strategy and innovation framework by Tony Ulwick



Step 1: Define the customer's 'job-to-be-done'

Step 2: Uncover the customer's needs

Step 3: Quantify the degree each outcome is underserved

Step 4: Discover hidden segments of opportunity

Step 5: Align existing products with market opportunities

Step 6: Conceptualize new products to address unmet outcomes

ODI: A strategy and innovation theory by Clayton Christensen



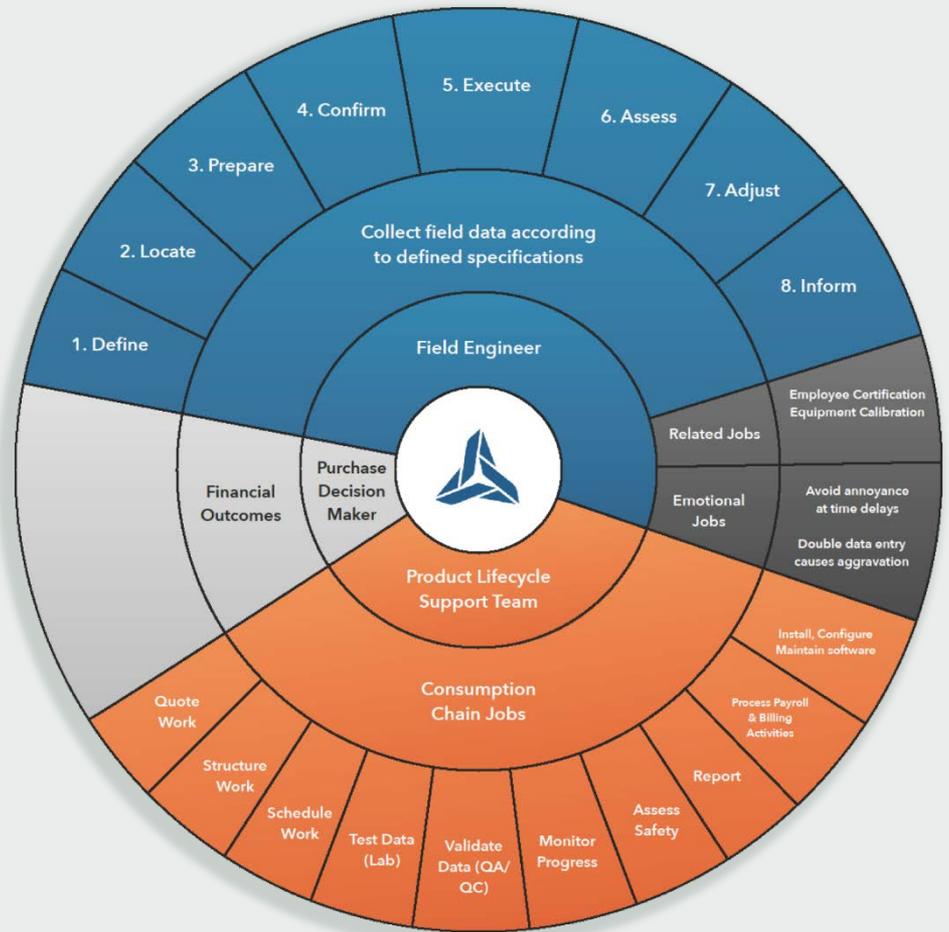
INDUSTRIAL COMPANIES USE ODI



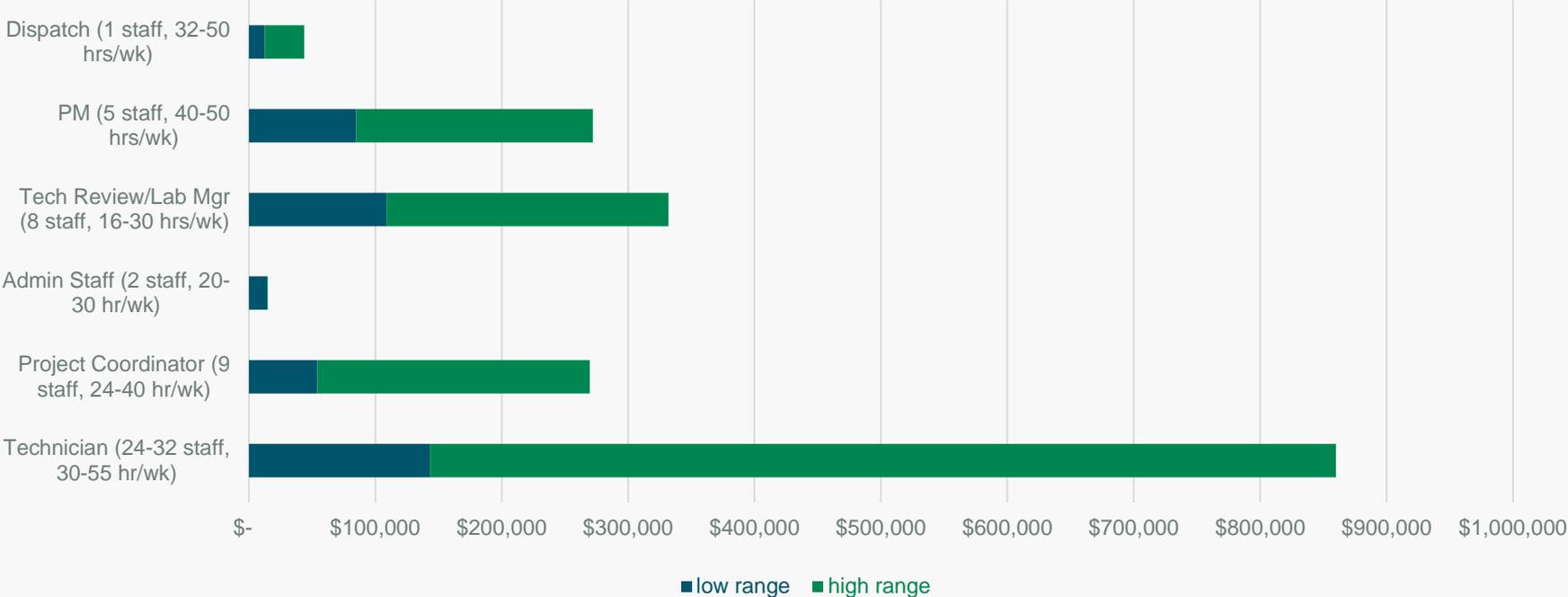
Outcome Driven Innovation & Jobs to be Done

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Core Job = Field Engineer ⇒ ⇒ ⇒



Opportunity Cost By Role - Atlanta Office



The future is efficiency through people, process, and technology.
 Common inefficiencies found in engineering, environmental and construction materials testing organizations with a significant cost savings opportunity.

Case Study: Strata, Inc.

- Philosophy of harnessing tools
- Process for streamlining company operations for the field/lab and beyond
 - Training
 - QMS
 - Safety
 - Radioactive materials program
 - HR (aspirational)
- Single source repository for records
- Results

Example – Laboratory Accreditation

- Influence of AMRL/CCRL – AASHTO R-18 grew by 300% in 2017
- Complexity of Standards – ASTM vs. AASHTO vs. DOTs
- Audits – preparation is day-to-day process, not one-off endeavor
- Personnel Training – Every person/Every test
 - Initial
 - Competency verification
- Equipment
 - Inventory
 - Calibration
 - Maintenance
- Chain of Custody
 - Samples
 - Equipment
 - Personnel

Example – Training

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STRATA
ASTM C31 / AASHTO T23 - PERFORMANCE EXAM CHECKLIST
MAKING AND CURING CONCRETE TEST SPECIMENS IN THE FIELD

Effective Date: 06/12/2018 Document Control No.: 507.24
 Supersedes: 01/30/2015

Office Location: Spokane Assessment Date: 08/01/2019
 Employee Name: OLSON, MICHAEL Examiner Name: MURPHY, JAMES
 Training Type: Initial Training Periodic Training

SECTION I	TRIAL 1	TRIAL 2
1. Molds placed on a level, rigid, horizontal surface free of vibration?	PASS	PASS
2. Representative sample selected?	PASS	PASS
3. Making of specimens begun within 15 minutes of sampling?	PASS	PASS

SECTION II: FIRST LAYER	TRIAL 1	TRIAL 2
4. Concrete placed in the mold, moving a scoop or trowel around the perimeter of the mold to evenly distribute the concrete as discharged?	PASS	PASS
5. Mold filled approximately 1/3 full?	PASS	PASS
6. Layer rodded throughout its depth 25 times with hemispherical end of rod, uniformly distributing strokes?	PASS	PASS
7. Sides of the mold tapped 10 to 15 times after rodding each layer? <ul style="list-style-type: none"> • With mallet for reusable steel molds. • With the open hand for flexible light-gauge molds. 	PASS	PASS

SECTION III: SECOND LAYER	TRIAL 1	TRIAL 2
8. Concrete placed in the mold, moving a scoop or trowel around the perimeter of the mold to evenly distribute the concrete as discharged?	PASS	PASS
9. Mold filled approximately 2/3 full?	PASS	PASS
10. Layer rodded 25 times with hemispherical end of rod, uniformly distributing strokes and penetrating 25 mm (1") into the underlying layer?	PASS	PASS
11. Sides of mold tapped 10 to 15 times with the mallet after rodding? <ul style="list-style-type: none"> • With mallet for reusable steel molds. • With the open hand for flexible light-gauge molds. 	PASS	PASS


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Page 1 of 2

PERFORMANCE EXAM CHECKLIST
TEST SPECIMENS IN THE FIELD

Document Control No.: 507.24

	TRIAL 1	TRIAL 2
Perimeter of the	PASS	PASS
	PASS	PASS
Distributing strokes	PASS	PASS
	FAIL	PASS
Trowel or float?		PASS
		PASS

	TRIAL 1	TRIAL 2
	FAIL	PASS


 James P. Murphy
 Chief Executive Officer

Page 2 of 2

Example – Quality Management System

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STRATA
QUALITY MANAGEMENT SYSTEM MANUAL

Effective Date: 04/01/2019 Document Control No.: 500.0
Supersedes: 01/22/2019 Page: 1 of 19


STRATA

Reviewed and Approved By:

 _____ Chief Executive Officer	 _____ Technical Director or Responsible Professional
 _____ Corporate Quality Manager	

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Example - Safety

STRATA Safety Incident

Spokane
1000 E. Knox Avenue, Ste. 200
Spokane, WA 99208
Phone: 509.901.9204
Fax: 509.891.2012

Client: [REDACTED]

Name: [REDACTED] Time of Incident: 12:30
Date Recorded: 08/21/2018 Supervisor: [REDACTED]
Weather A Factor?: No Temperature (F): [REDACTED] Precipitation: [REDACTED]
PPE Used: Seal Belt: [REDACTED]
Incident Location: [REDACTED]

Incident Description:
Driving across 35 mph down FE 111 from my camp site to the hot plant, the curve, I attempted to avoid the deer and slid off the road where I hit 2 weeds a few bushes and a 2nd degree burn to my arm from the air bag, a mechanic shop.

Injury: No

Damage Description
Type: Vehicle
Description of Damage: Hood, bumper, grill, both front fenders severely
Value: \$10,000 - \$50,000
Preventative Measures: Drive slower along the gravel roads as there are
Follow Up:
Damage Follow-Up
Property/Insurance Claim Filed By: [REDACTED]

Root Cause Analysis
What Happened?: Vehicle hit a deer
Why Did It Happen?: The deer was in the road around a blind corner

Causal Factor(s)
(3) Proper Procedures Takes More Time/Effort / (8) External Factor

STRATA Safety Incident Report

Spokane
1000 E. Knox Avenue, Ste. 200
Spokane, WA 99208
Phone: 509.901.9204
Fax: 509.891.2012

Client: [REDACTED] Project: [REDACTED]

Name: [REDACTED] Time of Incident: 04:50 Date of Incident: 07/01/2019
Project Number: [REDACTED] Date Recorded: 07/01/2019 Supervisor: [REDACTED]
Weather A Factor?: No
Temperature (F): [REDACTED] Precipitation: [REDACTED] Wind: [REDACTED]
PPE Used: Safety Toe Boots / Seat Belt: [REDACTED]
Incident Location: South West corner: [REDACTED]

Incident Description:
I tried to park around a sharp corner near the pump truck. Loose rock and cement blocks tipped over, causing two dents/scraps alongside the bottom of the passenger side of the company vehicle

Witnesses?: Yes

Witness
Name: [REDACTED] Telephone Number: [REDACTED]
Injury: No

Damage Description
Type: Vehicle Description: White, crew cab
Description of Damage: Two dents/scraps along bottom passenger side of vehicle
Value: \$10,000 - \$50,000 Estimated Damage: \$1,000-\$5,000
Preventative Measures: Should have found a different place to park

Follow Up:

Photographs

Q & A

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