

# Workshop Summary – What we heard?

## Key highlights of expectations of Owner/Operators from others within the Ecosystem [Suppliers/Contractors/Consultants]:

### Lead the Way

- As the ultimate integrators of projects, Owner operators are expected to drive digital transformation by mandating standards, technologies, and working practices.
- Provide agility to embrace new business models and willingness to pilot new technologies.
- Coordinate early engagement of suppliers and contractors to help influence the overall design and provide new digitalization solutions

### Standardization of Data & Process

- Provide data visibility to establish clear accountabilities of the process within the industry ecosystem, and enable open and transparent performance monitoring
- Standardize approach to data architecture, processes, procedures, and methodologies for managing and monitoring projects (data capture and reporting)

### Collaboration

- Provide a digital technology platform to effectively access & manage shared information, manage accountabilities and sustain collaboration
- Provide a mechanism to share and bring innovative ideas from suppliers and contractor

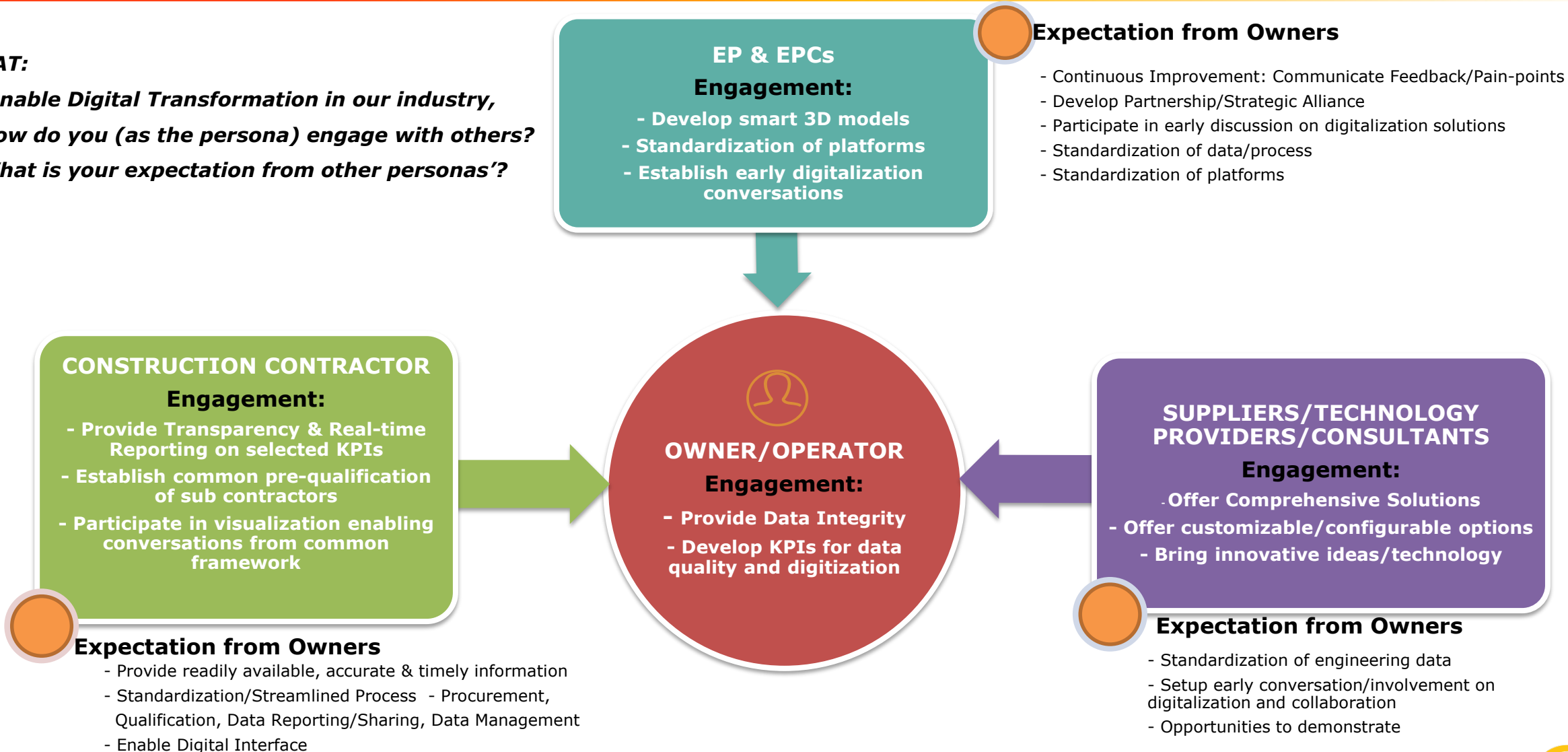
# Workshop Summary – What we heard?

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**WHAT:**

*To enable Digital Transformation in our industry,*

- *How do you (as the persona) engage with others?*
- *What is your expectation from other personas'?*





# **WORKSHOP RAW DATA**

## Persona: Construction Contractor

**IDEATE**

- Data Standards for construction typical information
- Access to Construction ready info/specs
- Drive Digital (Owner + Engineers) -> Digital Plan Rooms
- RFQ (Per Project/Size)
- Trade Subs (common pre-qualification)
- Technical Service Subs
- Supplier (Procor type cloud based documents)

# TASK#3 – CRYSTALLIZE



Persona View: CONSTRUCTION CONTRACTOR

Table#1

<b>Persona</b>		
	<p><b><i>Your Engagement with others within ecosystem</i></b>                  Selected Idea: <u>Industry wide standardized program for data sharing &amp; reporting</u></p>	<p><b><i>Benefits:</i></b></p> <ul style="list-style-type: none"> <li>• <i>No waste on conversion</i></li> <li>• <i>Streamlined processes</i></li> <li>• <i>Reduced indirect</i></li> <li>• <i>Removes gap in communication, increase efficiency and accuracy of reporting</i></li> </ul>
		<p><b><i>Risks/Challenges / Constraints</i></b></p> <ul style="list-style-type: none"> <li>• <i>Having buy-in from everyone</i></li> <li>• <i>Keeping people/companies/owner engaged /acceptance during development</i></li> <li>• <i>Common acronyms, naming, formats, syntax, definitions</i></li> </ul>
	<p><b><i>Suggested Timeline to Implement: 2 years</i></b></p>	
<b>Other Personas'</b>		
	<p><b><i>Your Expectations from other personas' to Engage</i></b>                  Selected Idea: <u>Readily available/accurate information</u></p>	<p><b><i>Benefits</i></b></p> <ul style="list-style-type: none"> <li>• <i>Never waiting on document controls/training</i></li> <li>• <i>Never building with old/superseded drawing</i></li> <li>• <i>Decreased downtime/Increased tool time</i></li> </ul>
		<p><b><i>Risks/Challenges / Constraints</i></b></p> <ul style="list-style-type: none"> <li>• <i>Being able to update drawings/data in required timeline</i></li> <li>• <i>Convincing Owner companies to not proceed until Engineering is complete and accurate</i></li> </ul>
	<p><b><i>Suggested Timeline to Implement: 1 year</i></b></p>	

# Persona: Suppliers/Technology Providers/Consultants

## IDEATE

- Understand the needs of the industry
  - Conferences
  - Business meetings
  - Partnership
  - Offer customizable options
  - Comprehensive website
  - Offer comprehensive solutions that are interconnected
  - Opportunities to demonstrate our products
  - Respect proprietary information and solution providers time
  - Honest and constructive feedback
  - Make quick decisions
  - Collaboration

# TASK#3 – CRYSTALLIZE



Persona View: SUPPLIERS, TECHNOLOGY PROVIDERS, CONSULTANTS  
 (Table#3)

<b>Persona</b>		
	<p><b>Your Engagement with others within ecosystem</b>                  Selected Idea: <u>Comprehensive Solutions that are interconnected</u></p>	<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• <i>Industry leaders in the technology space</i></li> <li>• <i>Integration brings exponential value to the Owners</i></li> </ul>
	<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>• <i>Pick the wrong horse to integrate with and become siloed</i></li> </ul>	<p><b>Suggested Timeline to Implement: 6 months</b></p>
<b>Other Personas'</b>		
	<p><b>Your Expectations from other personas' to Engage</b>                  Selected Idea: <u>Collaboration</u></p>	<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• <i>Everybody wins / is heard</i></li> <li>• <i>Achieve solutions faster</i></li> </ul>
	<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>• <i>IP issues</i></li> </ul>	<p><b>Suggested Timeline to Implement: 6 months</b></p>

## Persona: Construction Contractor

## IDEATE

- What do customers/owners want?
- Why do they want it?
- When to engage
  - Post bid / Pre-kick-off
  - Relationships – anytime

Expectation from ourselves (Contractors)

Real-time Reporting

Expectations from owners (expectation of Owners + EP: stay aligned)

- Specify Data Standard (everyone on the same page)
- One source of truth



# TASK#3 – CRYSTALLIZE



Persona View: CONSTRUCTION CONTRACTOR  
(Table#4)

<b>Persona</b>		
	<p><b>Your Engagement with others within ecosystem</b> Selected Idea: <u>Real-time reporting, selected key indicators = our contribution to one source of truth</u></p>	<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• <i>Timely Information + Timely Analytics</i></li> <li>• <i>Un-manipulated data</i></li> <li>• <i>Reduced transaction costs</i></li> </ul> <p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>• <i>Data inundation</i></li> </ul>
	<p><b>Suggested Timeline to Implement: 2 years</b></p>	
<b>Other Personas'</b>		
	<p><b>Your Expectations from other personas' to Engage</b> Selected Idea: <u>Owners drive standardization</u></p> <ul style="list-style-type: none"> <li>• KPIs required</li> <li>• Data Compatibility/Integration</li> </ul>	<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• <i>Overhead costs reduced – Both Contractor &amp; Owner</i></li> </ul> <p><b>Risks/Challenges / Constraints</b></p>
	<p><b>Suggested Timeline to Implement: Take advantage of an existential crisis</b></p>	

# Persona: Suppliers/Technology Providers/Consultants

## IDEATE

- Provide solutions
- Seller
- Personal relationships / Past experience
- Involvement / Willing to engage
- Realistic expectations (work in progress)
- Increased interest & Products/Services
- Risk aversion of financial commitment
- Partnership with complimentary service
- Owner driven
  - Personnel monitoring
  - Increased efficiency
  - Owner standardization

## TASK#3 – CRYSTALLIZE



Persona View: SUPPLIERS, TECHNOLOGY PROVIDERS, CONSULTANTS

(Table#5)

<b>Persona</b>		
	<p><b>Your Engagement with others within ecosystem</b>                  Selected Idea: <u>Initial Conversation with Stakeholders to define purpose and offer solutions</u></p>	<p><b>Benefits:</b> <i>Clearly defines expectations</i>  <i>Solves the problem – meets business objectives</i>  <i>Reduce redundancies (Speed/Simplicity) – Culture Development</i></p>
		<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>• <i>Time, money change in technology</i></li> <li>• <i>Training/Retention of SME</i></li> <li>• <i>Developed, scripted processes at on-set</i></li> </ul>
	<p><b>Suggested Timeline to Implement: 3 months</b></p>	
<b>Other Personas'</b>		
	<p><b>Your Expectations from other personas' to Engage</b>                  Selected Idea: <u>Expect conversation on safety, cost, schedule, quantity and digitization.</u></p>	<p><b>Benefits:</b> <i>Sets expectations</i>  <i>Creates common understanding</i></p>
		<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>- <i>IP – needs NDAs</i></li> <li>- <i>Differing perceptions of the solution</i></li> </ul>
	<p><b>Suggested Timeline to Implement: 3 months</b></p>	

**IDEATE**

- Asset Management
- Mining Data, Integrity of Data (Current Data)
- Minimum Expectation (attributes) Standards early in the Project Lifecycle
  - From contractor side as well as owner side
  - Set goal of the scope of data
- Owner policy and minimum expectations
- KPI for Digitization (Real-time)

**OTHERS**

- Offer out of thinking
- Demonstrate people competency
- Skin in the game for commercial benefit
- I<sup>3</sup> dashboard

## TASK#3 – CRYSTALLIZE



Persona View: OWNER / OPERATOR

Table#6

Persona	<p><b>Your Engagement with others within ecosystem</b> Selected Idea: <u>Data Integrity/Quality</u></p>	<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Unifies stakeholders</li> <li>• Increases predictability, reduces re-work</li> <li>• Backbone of asset safety and operability</li> <li>• Construct trust data to value decisions</li> <li>• Enhances organization moral</li> </ul>
		<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>• Take along smaller suppliers/fabricators/vendors</li> <li>• Develop KPIs for data quality</li> </ul>
		<p><b>Suggested Timeline to Implement</b> Immediate -&gt; Buy-in, full Project</p>
Other Personas'	<p><b>Your Expectations from other personas' to Engage</b> Selected Idea: Contractor: <u>Data Quality</u></p>	<p><b>Benefits</b></p>
		<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>• Demonstrate competencies</li> </ul>
		<p><b>Suggested Timeline to Implement</b></p>

## Persona: Construction Contractor

## IDEATE

- Digital interface b/w project participants
- Visualization enabling conversations from common framework
- Standardization of Engineering to improve construction
- Upfront expectations RE data (owner data requirement)
- Shared development and capabilities
- Flexible generic systems
- 4D BIM (add features)

## Owner – Engineering – Construction

- Digital Interface
  - Expectations
  - Standardization

# TASK#3 – CRYSTALLIZE



Persona View: **CONSTRUCTION CONTRACTOR**  
(Table#7)

<b>Persona</b>		
	<p><b>Your Engagement with others within ecosystem</b> Selected Idea: <u>Digital interface b/w Project participants</u></p>	<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Standardization, consistency, transparency, accountability, trust, cost reduction</li> </ul>
		<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>• Contractual relationships</li> <li>• Participants buy-in</li> </ul>
	<p><b>Suggested Timeline to Implement: 2 years</b></p>	
<b>Other Personas'</b>		
	<p><b>Your Expectations from other personas' to Engage</b> Selected Idea: <u>Expectations w/ data</u></p>	<p><b>Benefits</b></p>
		<p><b>Risks/Challenges / Constraints</b></p>
	<p><b>Suggested Timeline to Implement</b></p>	

# Persona: Suppliers/Technology Providers/Consultants

## IDEATE

- How to engage?
  - Identify people in other personas
  - Determine the opportunity for improvement
    - Think Tank – Integrated Team
    - Owner
    - EP + EPCs
    - Suppliers/Vendors
    - Contractors/Consultants
  - Understand needs of client
  - Bring innovative technology to discussion to be considered
  - How to align on data repositories that are different
  - Ensure that all parties are willing to change and trial
  - Available budgets/funds
  - Expect conversations on digitization early (cost, schedule, QC, HSE)



# TASK#3 – CRYSTALLIZE



Persona View: SUPPLIERS, TECHNOLOGY PROVIDERS, CONSULTANTS

Table#8

<b>Persona</b>		
	<p><b>Your Engagement with others within ecosystem</b>                  Selected Idea: <u>Owner Standardization:</u></p> <ul style="list-style-type: none"> <li>• <u>Procurement</u></li> <li>• <u>Qualification</u></li> <li>• <u>Reporting</u></li> <li>• <u>Data Management</u></li> </ul>	<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• <i>Financial focus, reduced costs</i></li> <li>• <i>More available resources to improve development and increase implementation efficiencies</i></li> </ul>
	<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>• <i>Consolidates success within persona</i></li> <li>• <i>Diversion from standard</i></li> </ul>	<p><b>Suggested Timeline to Implement:</b> 12 to 24 months</p>
<b>Other Personas'</b>		
	<p><b>Your Expectations from other personas' to Engage</b>                  Selected Idea: <u>Owner Standardization</u></p>	<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• <i>Reduced cost</i></li> <li>• <i>Increase delivery/implementation speed</i></li> <li>• <i>Leverage other owner experience</i></li> </ul>
	<p><b>Risks/Challenges / Constraints</b></p>	<p><b>Suggested Timeline to Implement:</b></p>

## IDEATE

- **Standardization**
  - Common Language to aid communication
  - Who leads standardization?
- **Be Transparent**
  - Collaborate with others
  - Trust
- **Flexibility**
  - Ability to adapt to different conditions
  - Willing to lead or adopt other ways of operating

# TASK#3 – CRYSTALLIZE



Persona View: EP & EPCs  
(Table#11)

<b>Persona</b>		
	<p><b>Your Engagement with others within ecosystem</b> Selected Idea: <u>Standardization of data/process:</u></p> <ul style="list-style-type: none"> <li>- Model smart 3D model</li> <li>- Process</li> </ul>	<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Standardization of platforms – Regardless of specific system allows for increased communication, coordination, construction vendors, owners</li> </ul>
	<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>• Not enough buy-in from owners, etc.</li> </ul>	<p><b>Suggested Timeline to Implement</b></p> <ul style="list-style-type: none"> <li>• 12 months decision on platform, then 5+ years implementation</li> </ul>
<b>Other Personas'</b>		
	<p><b>Your Expectations from other personas' to Engage</b> Selected Idea: Contractor</p>	<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Understand expectation/alignment to Clients</li> </ul>
	<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>• Money</li> <li>• Expose underdeveloped practices</li> </ul>	<p><b>Suggested Timeline to Implement</b></p>

**IDEATE**

- What/Why/Who/How?
- Define Ecosystem
- Where do you start?
  - Vertical
  - What organizational champions change?
- Elect champion
- Build a team
- Define goals/objectives (strategy)
- Get tactical
  - Consultation
  - Partnerships/Strategic alliance – what is the expectation or desired result
  - Big Hairy Audacious Goal (BHAG)
- Implementation /Alignment
  - Measurable results
- Continuous Improvement
  - Feedback/Painpoints

**PRIORTIZE**

- Maximize Optimal
  - Operational focus
  - Logistics
  - Maintenance
  - Planned work
- 20 ▪ Proactive not reactive

# TASK#3 – CRYSTALLIZE



Persona View: EP & EPCs  
Table#12

<b>Persona</b>		
	<p><b>Your Engagement with others within ecosystem</b> Selected Idea: <u>Owner Operator</u></p>	<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>Operational Data: Better equipment availability and uptime and maintenance budget</li> </ul>
		<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>Collecting data / building workflow / data evaluation/ workforce adoption/ good data</li> </ul>
	<p><b>Suggested Timeline to Implement – Strike while Iron is hot</b> Strategy: 3 months Cultural Alignment (Ecosystem): 3-5 years</p>	
<b>Other Personas'</b>		
	<p><b>Your Expectations from other personas' to Engage</b> Selected Idea: Contractor</p>	<p><b>Benefits</b> Understand expectation/alignment to Clients</p>
		<p><b>Risks/Challenges / Constraints</b></p> <ul style="list-style-type: none"> <li>Money</li> <li>Expose underdeveloped practices</li> </ul>
	<p><b>Suggested Timeline to Implement</b></p>	