



# Preparing the infrastructure workforce to deliver sustainability transitions

The urgency to improve sustainability outcomes in the Infrastructure industry is accelerating the pace at which new innovations and practices need to be implemented within the industry. However, the journey is just getting started and we have much to learn.

The UQ Sustainable Infrastructure Research Hub (SIRH) and global professional services firm, ARUP, brought a group of interested stakeholders together in October 2022. The conversations were sparked by brief presentations by international experts from academia and industry about how organisations and people are managing these emerging challenges. Round table discussions focused on how work needed to change and the employee experience. A lively Q&A with the panel followed, but the size and complexity of the challenges discussed highlighted how important it is that this conversation continues. Key insights from this discussion included:

## Embedding Sustainability Culture

Sustainability needs to be embedded within a company's visions and strategy. Much can be learned from other strategic changes, such as the safety journey. A key marker is where sustainability shifts from being peripheral to central in people's work. A culture of sustainability should be evident across all areas including board conversations, investment decision criteria, procurement practices and performance metrics to ensure they align and contribute to the sustainability goals.

## Procurement

Procurement should be actively involved in embedding sustainability objectives early in the project life. Contracts should demand positive social outcomes across the project lifecycle. Need to ensure the supply chain can deliver construction materials in line with the sustainability design. This should be reflected in procurement metrics.

## Technology

New technologies can manage emerging issues such as digital monitoring of construction materials or big data analysis of community water usage. May need to identify the high return technology first, then change the work, bringing people along.

## Leadership

Leaders need to role model desired patterns of behaviour so they must understand and buy-in personally. The change complexity means leaders need to consider the organisational system as a whole. Best to use a phased transition with 'bite sized' initiatives. Key steps include identifying capability gaps and innovation opportunities, developing policies to prioritise sustainability, establishing "guard rails" for acceptable risk and connecting with the frontline. Budgets need to support collaboration and transfer of learning.

## Innovation

The industry needs a paradigm shift from traditional views of risk to create a culture of innovation. Education is needed for employees on what innovation is as well as their purpose and role. Leaders needs to give permission for "safe" experimentation order to generate new ideas.

## People & Work

Employees need a psychologically safe environment where commitment to social goals, beyond money and time, can allow different approaches. Taking an active learning approach can de-risk work practices a step at a time. Developing the needed capabilities and skills continues to be a major challenge across the industry.

## EVENT SNAPSHOT

**20** Attendees

**11** Organisations



"It took 30 years to transition to the electric motor...we don't have the luxury of that time"  
*Dr Sam MacAulay, UQ*



"Organisations may agree on the big picture but disagree on what it looks like in different parts of the business. Getting clarity on this helps."  
*Samantha Walsham, ARUP*



"Clarity about consequences is needed. Directors...what kind of world do you want to leave your grandchildren?"  
*Dr Tracy Martin, UQ*



Q: "What keeps you optimistic?" A: "The passion of the next generation. They only want to work for the companies delivering this."  
*Dr Jurij Karlovsek, UQ*

# Key Challenges

- Perception of **complexity** of the sustainability journey.
- Decision criteria are often “cheapest to construct”, rather than the **lifecycle cost**.
- Lack of market capacity for **sustainable materials**.
- The **culture** in the infrastructure industry can be rigid and risk averse.

# Opportunities

- Relatively few, large customers in the Infrastructure industry. Smaller group to **influence**.
- Changes at the procurement stage means that change **ripples through** the rest of the process.
- The engineering culture **enjoys** solving problems!
- Continuous **professional development** of staff will lead to transition.
- **New graduates** come with the skills needed and are looking for organisations with aligned values. Be the market leaders!

# Moving Forward

- We need to change the narrative from the '**cost**' of infrastructure assets to the '**value**' they deliver to society
- Reframe the industry's view of **risk**
- Understand sustainability impacts all the way up and down the supply chain. **Collaborate** for overall best outcome.
- Use of **maturity frameworks** to help organisations understand their journey.
- Shared issue of how to address the **capability gap**. What needs to be learned? How best to deliver that learning experience? Build expertise in current employees or hire experts?

# What next with SIRH?

Join our research project: Preparing the infrastructure workforce for digital and sustainability transitions.

*Dr Tracy Martin, Research Fellow, SIRH*

This project is examining how we prepare the workforce in the infrastructure industry to be successful as their work changes, both as a result of digitalisation and the need to transition to sustainable infrastructure. The project plans to explore three organisational cases and take a broad sweep across the industry to find out what is working well and discover the practices that are accelerating change. Outcomes will include industry paper and workshops to transfer learning.

If you would like to get involved with this, or any of the projects within the SIRH, or would like more information, please contact us.



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<https://bel.uq.edu.au/sustainable-infrastructure>



CREATE CHANGE

