

THE CHANGING INNOVATION LANDSCAPE: CHALLENGES FOR COLLABORATIVE DESIGN

ICED17

CHAIRS: IAN WHITFIELD AND AVRIL THOMSON

Monday 21st August 2017 – 9:30 to 12:30 - Room 2314



21st International Conference
on Engineering Design (ICED17)
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Workshop Team



Ian Whitfield



Avril Thomson



Ross Brisco

Collaborative Design SIG

To support and build the community of collaborative design researchers and initiate a collaborative design research agenda.

Substantial benefits can be achieved (from better supporting collaborative design):

- Efficiency improvements
- Elimination of rework
- Improved complexity management
- Automation of parts of the collaborative design process



What are the challenges of collaborative design?

Current collaborative design research provides **incremental, disciplinary improvements**, and has not been holistically investigated to generate the breakthrough required.



Format

9:30	Introduction	Collaborative Design SIG
9:40	Workshop Context	Overview of the changing innovation landscape
10:05	Solar Eclipse	Solar eclipse break/coffee
10:35	Group Discussion	What are the challenges in harnessing the changing innovation landscape to achieve maximum benefit for collaborative design?
11:10	Activity	Theming the challenges.
11:40	Open Discussion	How can we address these challenges through research?
12:14	Close	

What is the changing innovation landscape?

Organisations have an increased importance to **adapt and advance** collaboration practices in design in order to survive and flourish.



What is the changing innovation landscape?

Technological advancements have the potential and an expectation to enable **agile collaboration** and new possibilities for innovation.



What is the changing innovation landscape?

The characteristics present **complex and contradictory** challenges to conventional industrial practice and confounds the benefits gained from wide-spread implementation.



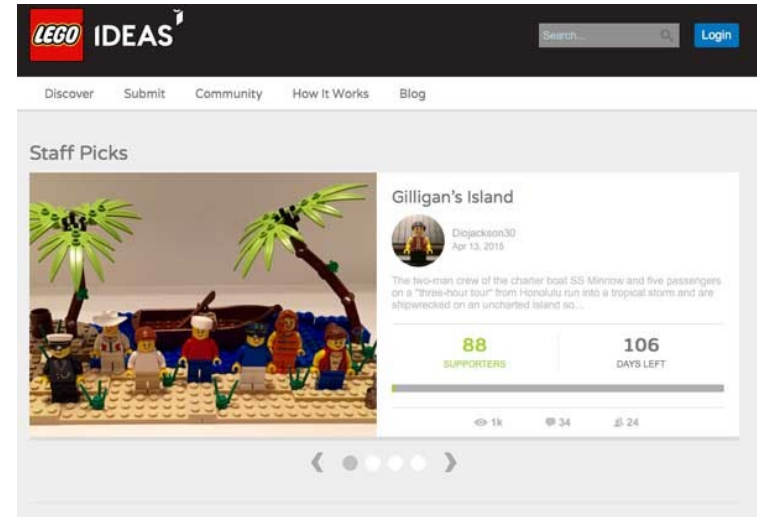
Characteristics of the changing innovation landscape

- Rapid creation and articulation of viewpoints
- Faster construction of networks
- Democratisation of the product or service development process
- Discontinuous and open innovation
- Creating new business models and markets
- Adoption of dynamic capabilities to sustain competitive advantage



What the changing innovation landscape could mean?

- Some industrial practices may be ill equipped to replicate these benefits in a collaborative environment:
- Collaborative endeavours fail due to obstacles in sharing knowledge
- Difficulty in coordinating stakeholders



Characteristics of the changing innovation landscape

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How might we approach this problem?

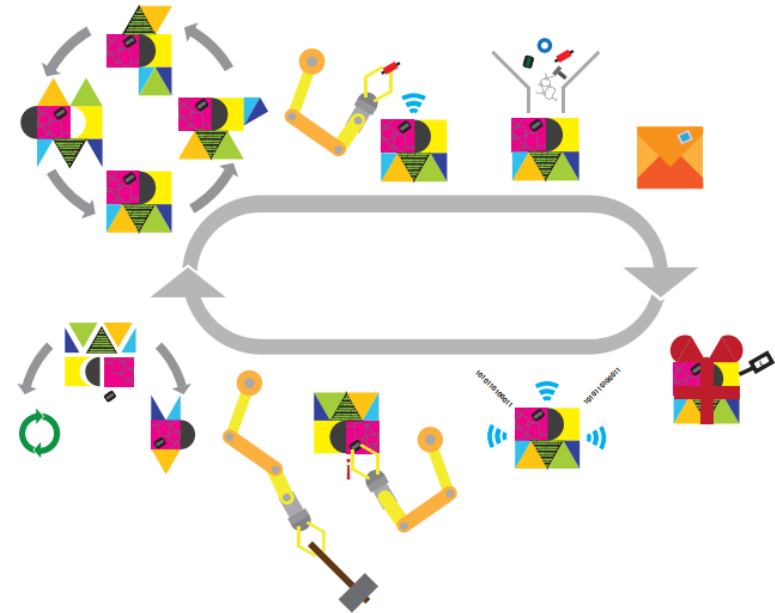
Equip the next generation of engineers with a skillset to address the **challenges and complex contradictions** presented by the innovation landscape



Industry 4.0

Enables agile systems
connectivity and
communication.

But, to fully realise
industry 4.0 we must
investigate how our
design activities fit?



Distributed manufacturing

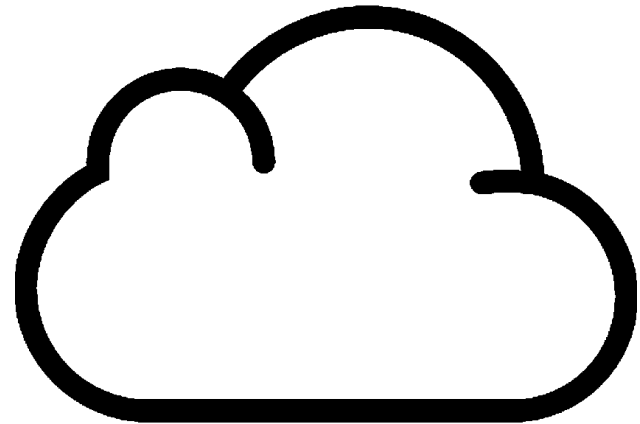
Potential to facilitate the rollout of distributed manufacturing.

How do we ensure quality control with a wide and fast rollout.



Knowledge capture and dissemination

With a greater reliance on technology our systems must support connectedness and access to information.



Please return
for 10:35

Eclipse Break



Brief Introductions

- Name
- Affiliation
- Background

Please keep to maximum 30 seconds.

Open Discussion

How can we harness the changing innovation to achieve maximum benefit for collaborative design?

Group Discussion

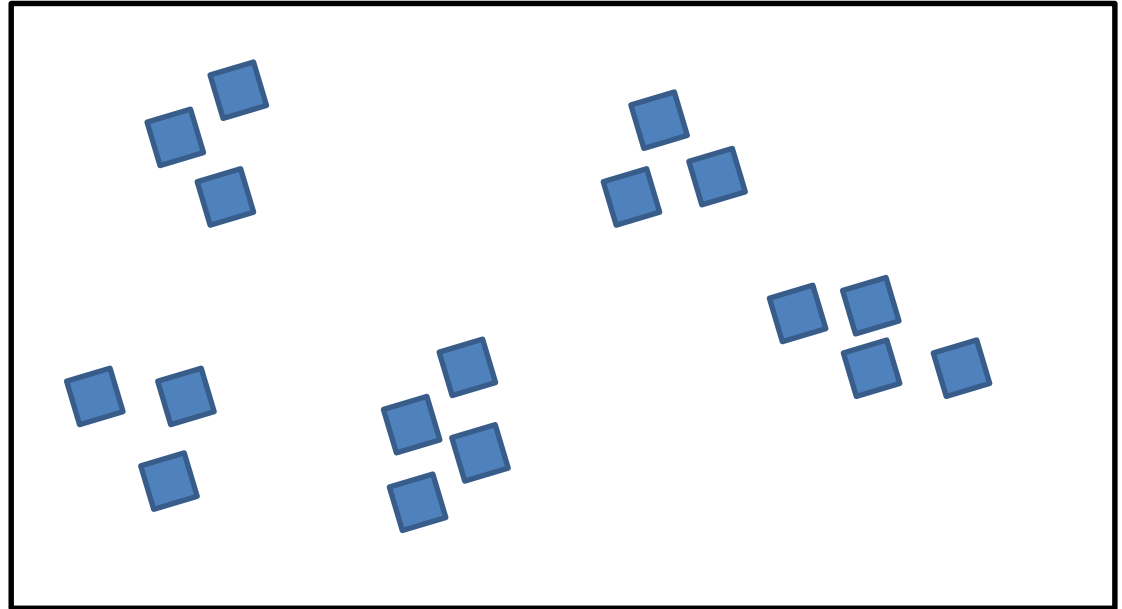
What are the challenges towards achieving a new innovation landscape?

1. Discuss in your group(s) – 10 minutes.
2. List your challenges – 10 minutes.
3. Prioritise **three most important** challenges to share with the group – 10 minutes.

Theme the challenges

Select a challenge and
add it to the wall.

If you have anything
which relates to this
challenge add it
alongside.



Open Discussion

How can we address these challenges
through research?

Concluding remarks

COLLABORATIVE DESIGN EDUCATION

CHAIRS: ROSS BRISCO & BRYAN HOWELL

Today at 2pm - Room 2314



Thanks for Coming



ian.whitfield@strath.ac.uk



avril.thomson@strath.ac.uk



Ross.Brisco@strath.ac.uk



University of
Strathclyde
Glasgow