## Advancing the role of technicians within CDIO programs

## How can we advance the identity of technicians in CDIO?

| $\Rightarrow$ | Some thoughts for you to think about  |   |   |   |   |  |   |   |   |   |   |
|---------------|---|---|---|---|---|--|---|---|---|---|---|
|               | -How can we ensure technicians  |   |   |   |   |  |   |   |   |   |   |
|               | understand what CDIO is?  |   |   |   |   |  |   |   |   |   |   |
|               | -How do we support their engagement   |   |   |   |   |  |   |   |   |   |   |
|               | with the wider CDIO community?  -What are some of the potential   |   |   |   |   |  |   |   |   |   |   |
|               | barriers to engagement?   |   |   |   |   |  |   |   |   |   |   |
|               | -What would the successful integration  |   |   |   |   |  |   |   |   |   |   |
|               | of Technicians look like in the future?   |   |   |   |   |  |   |   |   |   |   |
|               |   |   |   |   |   |  |   |   |   |   |   |
|               | ♥ 0 <b>○</b> 1  |   |   |   |   |  |   |   |   |   |   |
|               | Anonymous 2/29/24 1:51PM  |   |   |   |   |  |   |   |   |   |   |
|               | Define « Why »: why technicians should participate? The need of having a strategy of implementing CDIO that include the |   |   |   |   |  |   |   |   |   |   |
|               | technician's participation is fundamental.  |   |   |   |   |  |   |   |   |   |   |
|               | Establish "How":  - the technicians can understand CDIO (organising serious   |   |   |   |   |  |   |   |   |   |   |
|               | - the technicians can understand CDIO (organising serious games ?)  |   |   |   |   |  |   |   |   |   |   |
|               | - the technicians can participate at implementing CDIO  |   |   |   |   |  |   |   |   |   |   |
|               | - the technicians can work with the technicians of the other universities participating at CDIO                         |   |   |   |   |  |   |   |   |   |   |
|               | - the technician implication/investments can be "rewarded"  |   |   |   |   |  |   |   |   |   |   |
|               | Sorin IGNAT (Arts et Métiers - France)  |   |   |   |   |  |   |   |   |   |   |
|               |   |   |   |   |   |  |   |   |   |   |   |
| $\Rightarrow$ | barrier: some academic staff can be reluctant to expose   |   |   |   |   |  |   |   |   |   |   |
|               | how little practical skill they possess and therefore do  |   |   |   |   |  |   |   |   |   |   |
|               | not want to get into discussions where the technician   |   |   |   |   |  |   |   |   |   |   |
|               | will have superior knowledge or experience  |   |   |   |   |  |   |   |   |   |   |
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|               |   |   |   |   |   |  |   |   |   |   |   |
|               |   |   |   |   |   |  |   |   |   |   |   |
| $\Rightarrow$ | Technician is viewed as part of the CDIO  |   |   |   |   |  |   |   |   |   |   |
|               | module team. Included in all planning   |   |   |   |   |  |   |   |   |   |   |
|               | meetings and attend module throughout.  |   |   |   |   |  |   |   |   |   |   |
|               | $\heartsuit \circ \bigcirc \circ$   |   |   |   |   |  |   |   |   |   |   |
|               |   |   |   |   |   |  |   |   |   |   |   |
|               |   |   |   |   |   |  |   |   |   |   |   |
| $\Rightarrow$ | There are certainly a few tiers of this from involvement  |   |   |   |   |  |   |   |   |   |   |
|               | in the wider aspects of planning and development in   |   |   |   |   |  |   |   |   |   |   |
|               | domestic courses in their own institution and then the  |   |   |   |   |  |   |   |   |   |   |
|               | expanded horizons to the community beyond. Feeling confident in their domestic role may encourage some to               |   |   |   |   |  |   |   |   |   |   |
|               | look wider but exposure to the wider view could also act  |   |   |   |   |  |   |   |   |   |   |
|               | as a catalyst for growth in their domestic role.  |   |   |   |   |  |   |   |   |   |   |
|               | ,   |   |   |   |   |  |   |   |   |   |   |
|               | m. o.   |   |   |   |   |  |   |   |   |   |   |
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|               |   |   |   |   |   |  |   |   |   |   |   |
| $\Rightarrow$ | The Philippine setting's concern on technicians is that   |   |   |   |   |  |   |   |   |   |   |
|               | their qualifications and job descriptions are not clear as  | - | _ | - | - |  | - | - | - | - | - |
|               | to their role in the implementation of the CDIO courses.  |   |   |   |   |  |   |   |   |   |   |
|               |   |   |   |   |   |  |   |   |   |   | - |
|               |   |   |   |   |   |  |   |   |   |   |   |

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|-------------------|--|---|--|--|--|--|--|--|
|                   | Anonymous 2/29/24 1:45PM   |   |  |  |  |  |  |  |
|                   | Capacity-building for technicians; perhaps an multi-level  |   |  |  |  |  |  |  |
|                   | training modules to ensure that they can catchup with the CDIO curriculum demand   |   |  |  |  |  |  |  |
|                   | 1  |   |  |  |  |  |  |  |
|                   |  |   |  |  |  |  |  |  |
| $\ominus$         | Create CDIO operational support track  |   |  |  |  |  |  |  |
|                   | A track dedicated to supporting CDIO implementation could be very useful for both academics and technicians  |   |  |  |  |  |  |  |
|                   | could be very discribinor both academies and technicians   |   |  |  |  |  |  |  |
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|                   |  |   |  |  |  |  |  |  |
| $\ominus$         | How do we support their engagement: First we need  |   |  |  |  |  |  |  |
|                   | to define their role within the CDIO framework.  |   |  |  |  |  |  |  |
|                   | Maybe in the "Implementation and Operate" phases   |   |  |  |  |  |  |  |
|                   | and not in the Conceive/Design Phases?   | - |  |  |  |  |  |  |
|                   | ♡ 0 Q 1  |   |  |  |  |  |  |  |
|                   |  |   |  |  |  |  |  |  |
|                   | Anonymous 2/29/24 1:48PM I agree with this.  |   |  |  |  |  |  |  |
|                   |  |   |  |  |  |  |  |  |
| $\ominus$         | TATILITY IN THE COURSE OF (The desired and a)  |   |  |  |  |  |  |  |
|                   | What is in it for me? (Technician asks)  |   |  |  |  |  |  |  |
|                   | <ol> <li>Learning &amp; Collaborating Forums         on CDIO Website for Technicians</li> </ol>  |   |  |  |  |  |  |  |
|                   | 2. Facilities to Upskill yourself  |   |  |  |  |  |  |  |
|                   | to lead your jobs better   |   |  |  |  |  |  |  |
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| $\ominus$         | Agency   |   |  |  |  |  |  |  |
| $\oplus$          | Feeling that you're part of a community (in my   |   |  |  |  |  |  |  |
| (F)               | Feeling that you're part of a community (in my experience) often necessitates some form of agency, i.e.  |   |  |  |  |  |  |  |
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| $\oplus$  | A change in the mindset of management is required - the value of engaging with CDIO needs to be recognised  |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|-----------|---|---------|----|-----|-----|-----|---|---|---|---|---|---|---|---|---|
|           | ♥ 0 ○ 0   |         | •  |     |     | -   | • | • | • |   |   |   | • | • |   |
| $\ominus$ | Look at introducing technician tracks at all regional meeting   |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | UK have included technician tracks at a number of UK meetings as well as the 2020 an 2023 EU meeting  |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | (both held in UK). We could do this again for the 2025 EU meeting in Porto befor thinking about adding a tech track at the summer conference.           |         |    |     |     |     |   |   |   |   |   |   |   | • |   |
|           | $\heartsuit \circ \bigcirc \circ$   |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
| $\ominus$ | Have more technicians involved in writing papers!   |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | $\heartsuit \circ \bigcirc \circ$   |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
| Но        | w should engage the workgroup at the CDIO Interna   | ational | Со | nfe | ren | ce? |   |   |   |   |   |   |   |   |   |
|           | Some thoughts for you to think about  -What are some of the most critical activities that we should focus on first                                      |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | -What would a successfully run<br>1 <sup>st</sup> Workgroup meeting look like?  |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | ♥ 0 <b>○</b> 1  |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | Anonymous 2/29/24 1:52PM As Thomas suggested we would want this to be driven or evolve into something being driven by Techs. I can't see papers etc.    |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | being attractive necessarily but workshops would be key. Eg. logistics of supporting CDIO (handling large numbers etc), evolving tech                   |         |    |     |     |     |   |   |   |   |   |   |   | • |   |
| $\odot$   | provide an consensus operating definitions for technicians, its role and its delineation to the   |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | role of the faculty as CDIO main implementers $\bigcirc 1 \bigcirc 0$   |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | V150  |         |    | -   | -   | -   | • | - | - | - | • | - |   | - |   |
| $\ominus$ | Technician in CDIO  |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | Possible Qualifications? Possible roles in the CDIO framework? To what extend in each category?   |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | ♡ 0 D 1   |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | Anonymous 2/29/24 1:53PM Collect the various qualifications of technicians, their current roles and responsibilities and investigate the common grounds |         |    |     |     |     |   |   |   |   |   |   |   |   |   |
|           | to start with   |         | •  |     |     | -   | • | - | • |   |   | • |   | • | • |

|           | Workshops for Techs?  |  |  |  |   |   |  | - |   |   |  |
|-----------|---|--|--|--|---|---|--|---|---|---|--|
|           | A dedicated suite of workshops to understand CDIO   |  |  |  |   | - |  |   | - |   |  |
|           | ♡ 0 ○ 0   |  |  |  |   |   |  |   |   |   |  |
| $\ominus$ | Engagement (Why would they like to engage ?)  |  |  |  |   |   |  |   |   |   |  |
|           | <ol> <li>let's think what do we want our technician<br/>to gain through collaboration / engagement</li> <li>Engagement need not be</li> </ol> |  |  |  |   |   |  |   |   |   |  |
|           | restricted into a conference alone ?  |  |  |  |   |   |  |   |   |   |  |
|           | $\bigcirc \circ \bigcirc \circ$   |  |  |  |   |   |  |   |   |   |  |
| $\ominus$ | Technicians should also be most welcome at "academic"   |  |  |  |   |   |  |   |   |   |  |
|           | sessions like the CDIO introductory sessions  |  |  |  |   |   |  |   |   |   |  |
|           | ♡ 2 ○ 0   |  |  |  |   |   |  |   |   |   |  |
| $\ominus$ | specific tech introductory sessions   |  |  |  |   |   |  |   |   |   |  |
|           | for new adopterswhat will it<br>mean for techs, how can we support  |  |  |  |   |   |  |   |   | - |  |
|           | $\bigcirc \circ \bigcirc \circ$   |  |  |  |   |   |  |   |   |   |  |
| $\ominus$ | Identify CPD activities specific to CDIO and  |  |  |  |   |   |  |   |   |   |  |
|           | share with partners. We should also share case studies where technicians have lead activities   |  |  |  | ٠ |   |  |   |   |   |  |
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| $\ominus$ | Identify a suitable platform for sharing  |  |  |  |   |   |  |   |   |   |  |
|           | We really need a suitable online platform to facilitate all the collaboration. We have tried Teams in the UK                                  |  |  |  |   |   |  |   |   |   |  |
|           | but ran in to some difficulties with hosting at a one institute and inviting collaborators as guests.   |  |  |  |   |   |  |   |   |   |  |
|           | $\bigcirc \circ \bigcirc \circ$   |  |  |  | ٠ |   |  |   |   |   |  |
|           |   |  |  |  |   |   |  |   |   |   |  |

