

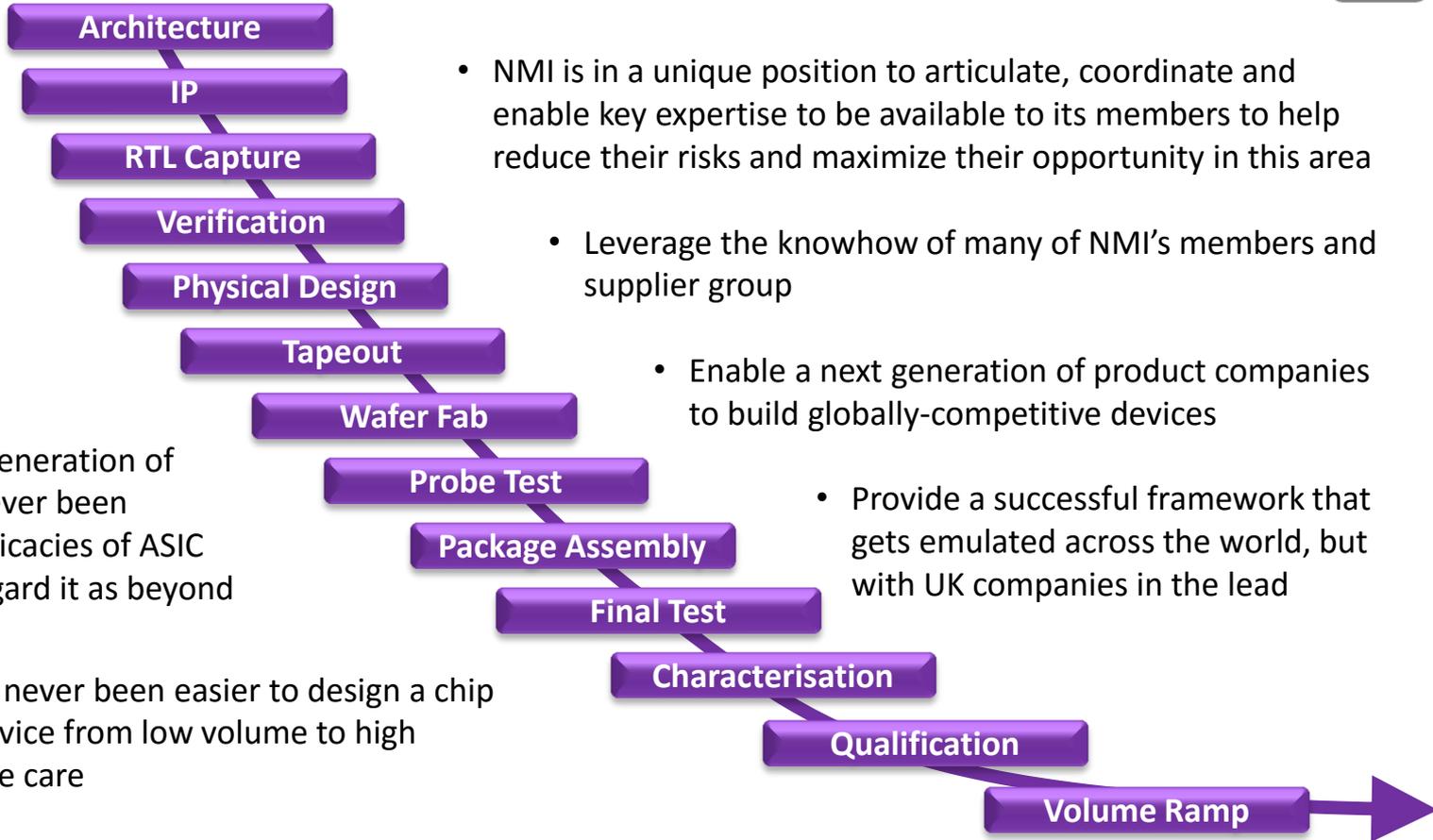


Product Realisation Initiative

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Product Realisation Initiative

- IoT End-Point devices will require the integration of sensor technology with low cost internet access
- Many of the next generation of companies have never been exposed to the intricacies of ASIC design and may regard it as beyond them
- Yet, conversely, it's never been easier to design a chip and transform a device from low volume to high volume – if you take care



Product Realisation Initiative

- These phases can be split into “**front end**” and “**back end**”, being **design** and **manufacture** oriented respectively

- Each phase itself can be split further into equipment, activities, suppliers, spending, duration, skills required, etc.

- Although the total number of separate suppliers that might need to be engaged with is quite modest (more than 5, less than 25), a very diverse range of skills and expertise is required to get through this, and experience is vital if the right choices



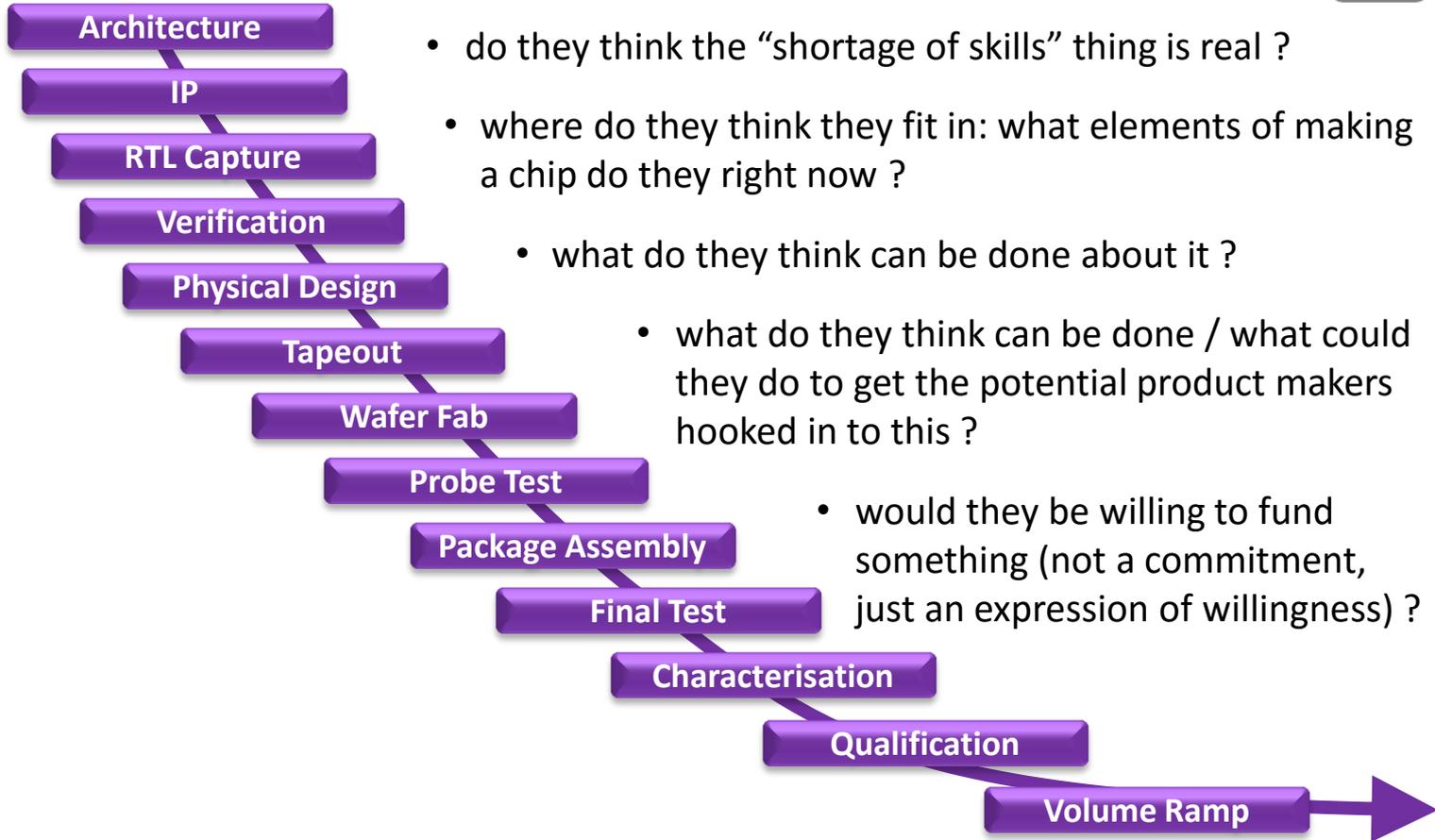
- The aim of this program is that product developers get connected to the right suppliers in the right manner in order to allow their product to go to higher volumes than would be achievable with a standard-product-only solution.

- We do not want this to be a “land grab” where suppliers aggressively sell to anyone in the room: this is about putting together the *right* solution for a situation.

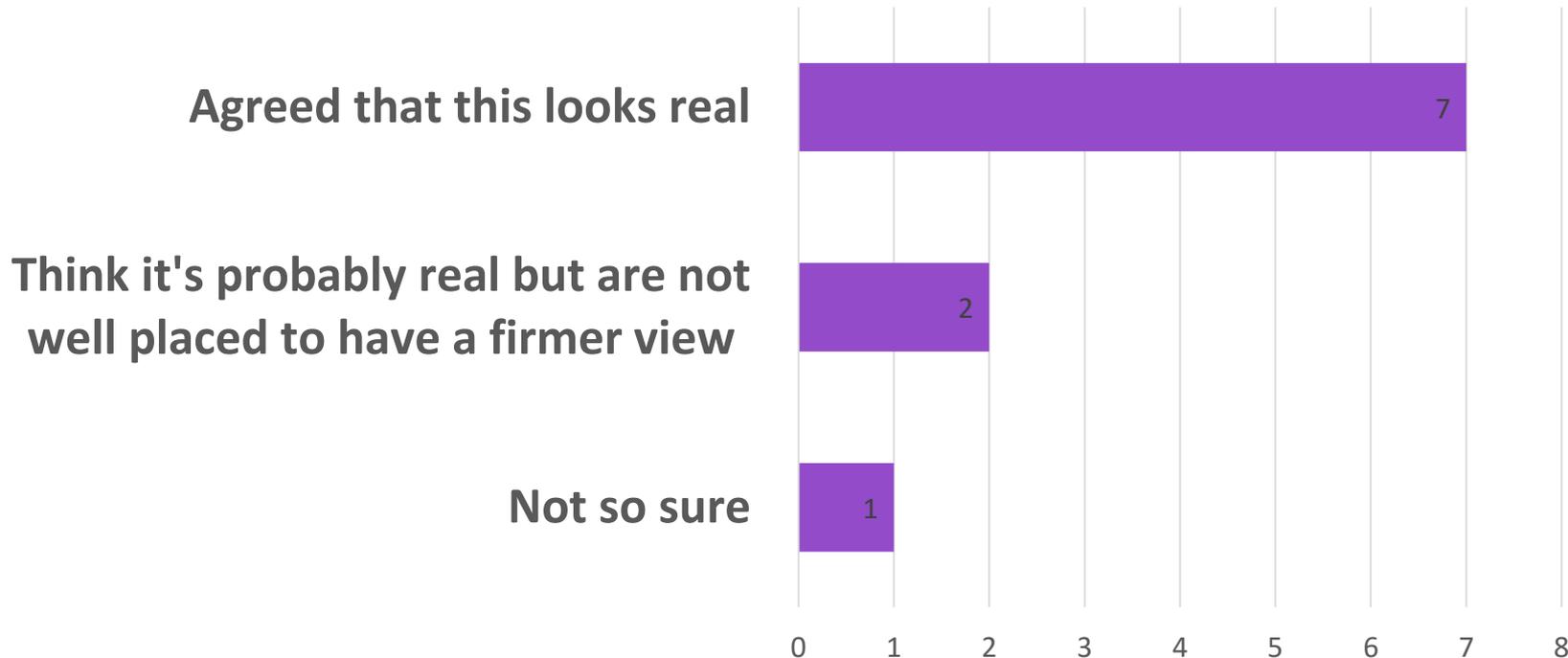
- We would aim to provide a level playing field to all suppliers in a category, with no supplier getting a more prominent position

Note that this is mainly
about *offshore* manufacture

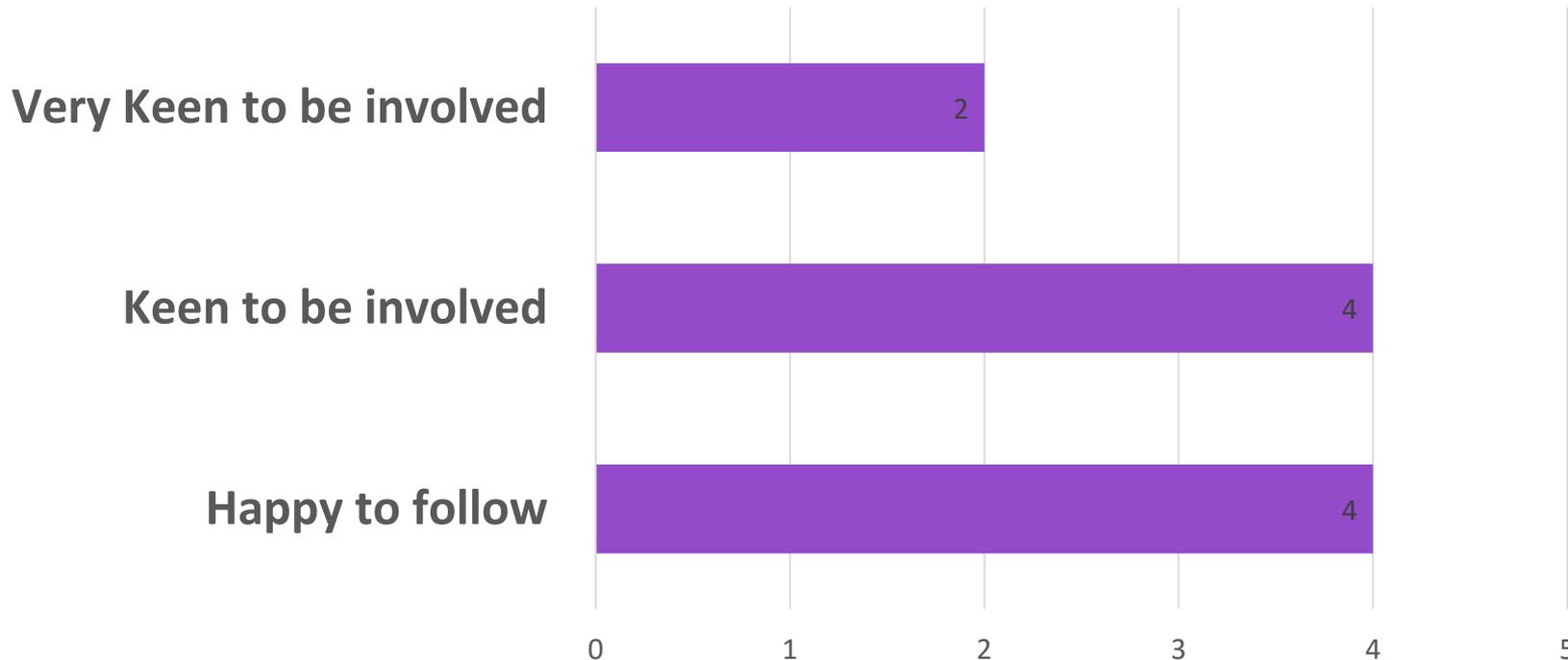
Discussion Points



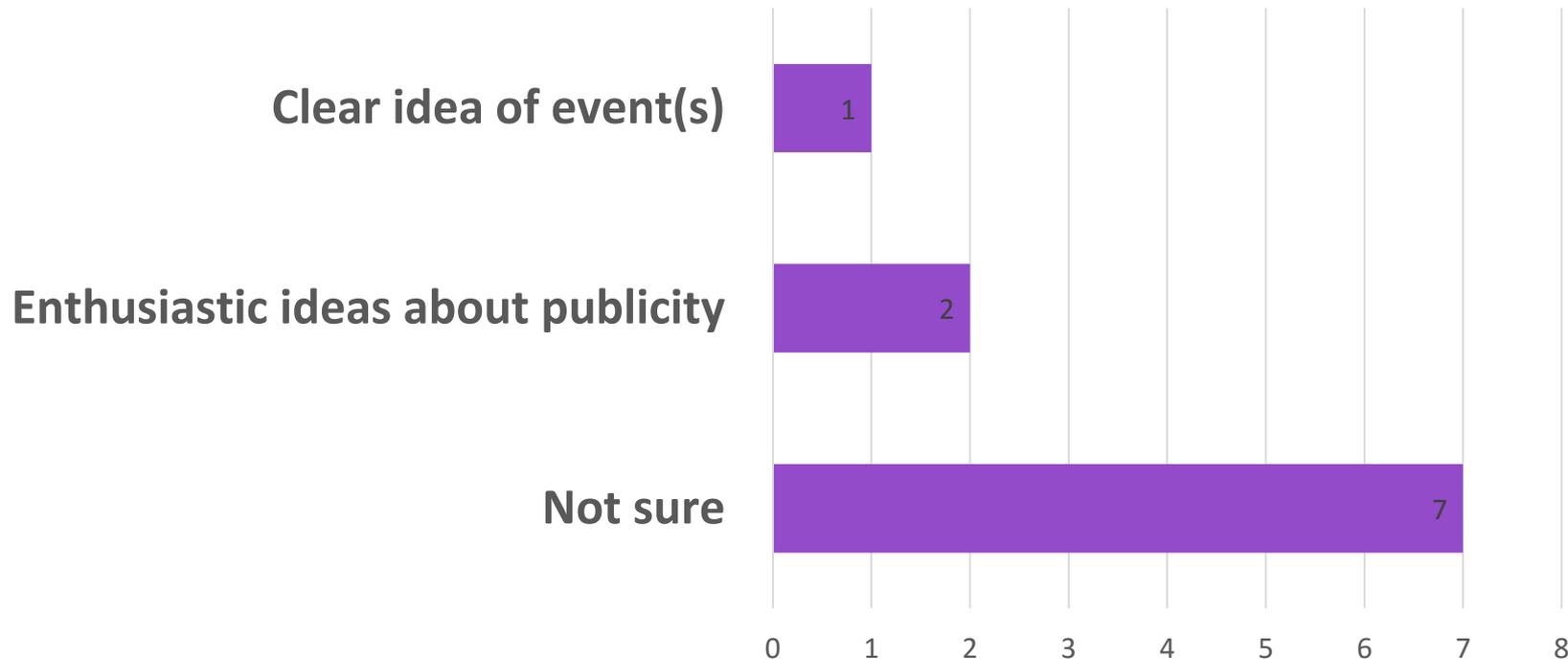
Supplier Discussion: Is It Real ?



Supplier Discussion: Keen to be Involved ?



Supplier Discussion: What should we do ?



Non-Supplier Engagements

Organisation	Role	Status
UKTI	Government innovation agency	Understands the issue, veered towards it being a graduate thing. Gave pointers.
InnovateUK	Government funding agency.	Mainly gave pointers, as they distribute the money, they don't use the money.
KTN	Supports "Smart-x" companies, pointing HW help-needers to people like NMI, SETquared, etc.	Very keen, would be delighted to host events
Digital Catapult	Mainly concerned with earlier problem of identifying market / solution, rather than realising it.	Can see we should be aligned in tackling this. Have drop in afternoons with pitch opportunities, etc.
IoTUK	Focused on extracting value from the <i>data</i> , not focussed on low level stuff.	Definitely ID'ed something real, reckons its longer term, setting up HW Accelerator, wants to stay aligned with us.
SETsquared	Business Incubator	Agrees about issue but don't see many HW oriented companies. Happy to help provide publicity platform / forum
TechSpark	Innovation Network	Understand proposition, happy to help. Suggested article(s) in newsletter/blog

Responses

- General agreements:
 - There's a shortage in the UK of expertise and experience in outsourced chip manufacture
 - Parts of the IoT market are likely to require this sort of service
 - This is not a big problem right now, though there is some evidence that is starting to develop; the general agreement is that this will be a problem in the medium term, as IoT applications are identified and end-points characteristics become better defined
 - Innovating companies that could benefit from an ASIC within their solution are likely to need help in understanding their options and potential ways forward; for their business, "it's not about the chip"
- Design services and skills were not universally agreed to be in short supply, but the proportion agreeing with this was very high

Ways Forward (ideas)

- Promote the system-to-silicon bridge as something that can and should be done
- Gradual build-up; don't try and solve straight away, as the problem's not big yet. Establish the audience first.
- Align / coordinate / link with other IoT initiatives and discussion forums: make the path to silicon one that is clearly signposted.
- Establish a continuous presence in relevant social media: innovating companies are connecting through this rather than traditional means.
- Present on this subject at local events, e.g. TechSpark, SETsquared, KTN, IoTUK, etc.. There's plenty of people looking for content. Put together a presentation at the right level and repeat it...

Ways Forward (requirements)

- Anything done to address this needs...
 - To be visible to communities that don't know that they might need to know this stuff
 - To be steady and long term, not a one-off
 - To have a low barrier to entry – low cost in time, distance and money
 - To appear interesting and attractive

Ways Forward (firm)

- Develop a capability directory of “Design services” and the eco-system of companies in the NMI network that can support ASIC development as/when it’s required
 - note that with companies like “IC Link” (IMEC) and S3 this will be on a wider geographic basis than the UK
- Maintain our “Silicon for Systems” Event with an annual spot on the event calendar where we’ll continue to promote engagement across the eco-system around this topic area
 - Agreement on the location of this is imminent

- There were 50 or so exhibitors → Exhibitors
 - I talked to the 25% or so that made or sold hardware → Hardware
 - One was a fabless chip company → Chips
- The hardware companies shared some characteristics and opinions:
 - they also do some degree of software
 - they use standard components
 - they follow (and influence, if large enough) the component suppliers' roadmaps
 - costs are not yet low enough for wide consumer roll-outs, but productivity improvements in commercial applications are “hot”
 - they need to be agile, offering lego-type products that can be used to build the IoT systems that get designed as progress is made.
 - And at some point in the next few years, the high-volume or tiny-form-factor hardware applications that will drive chip customisation will become clearer and chip tapeouts will probably follow.



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