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# Stages of development

We suggest a very flexible and low resource **phase 1**, which can be worked on by a group of volunteers with little or no financial outlay. This is described below. This will be a phase during which the requirements are drafted, where companies wishing to use the mark can see how well their products meet the requirements, and where we can build interest and develop the brand. Prototyping of the mark, in terms of companies testing their products against the standard and perhaps even starting to use a graphic mark (which would help test consumer response), would be good and would allow iteration and development of the standard if needed. This phase could operate without any formal entity being incorporated and without a registered trademark, if that was helpful; these could both be set up during this phase if desired.

Phase 1 can continue until resources are available to set up Phase 2, AND that the principles are clear and proven in tests with real products so that we feel confident to register a mark around them.

Phase 1 could continue for some time with review and iteration of the principles, development of the practices with consumers and with companies building products, and awareness raising.

**Phase 2** would see a legal entity looking after the concept and registering a trademark, and some formalisation of processes, with the bulk of work potentially still delivered by volunteers or funded by grants.

**Phase 3** is when we have a viable and sustainable business model, and therefore the resources supporting the mark's maintenance, enforcement and any certification/audit services are ongoing (rather than from one off sources such as donations, grants, and injections of investment). We don't yet know what the right model would look like.

## Phase 1, an agile approach

**We recommend an agile approach: A soft start with a self-declared flexible set of principles/definition for use of the mark, and a review point later that would allow for formalising in the future.** This allows for a learning period and a wider adoption of the mark.

### Soft start:

- a website to showcase the mark, how it was made, what it means, and a list of products/services/organisations using it,
- a graphic mark (optionally registered as a trademark),
- Advisory group—to start with, recruited from the London event—to coordinate and adapt what's going on in the initial phase. Loosely structured based on who shows up.
- A steering committee so there is someone who can break the tie or weigh in in case of a conflict.
- Contribution & governance based on who shows up (equivalent to IETF), so as to allow for a broad intake of stakeholders. If no consensus emerges, the advisory group can make the call.
- Contributors can participate in various ways, primarily through a mailing list and/or Slack.
- The mark itself would be defined by
  - a soft self-declared modular and potentially multilevel standard, where those who wish to certify products notify us via a form, and must have public docs available to justify their use of the mark and relevant levels/modules.
  - We create a list of examples of what sort of things might be documented to justify the use of the mark, below.
  - Could be gold/silver/bronze, or up to 10 stars, etc, to indicate degrees of compliance/quality
- Members of the public can challenge / report misuse of marks by reporting it to the central coordinating body (#IOTmark Org).

An attempt should be made to reach other stakeholders not in the room in London in June 2017 to get input on our ideas, and to make it possible for anyone who is interested to join the advisory group.

**At reasonable intervals, we will review what worked, what needs adjusting, and whether it is ready to move to phase 2.** Relevant factors include who uses the mark, how well the standard fits real products/services, what the consumer value is, and more.

This review could be informed by surveys of purchasers of certified items, surveys of companies who have tried to use the mark, etc.. This allows us to iterate and be agile in response to consumer and tech-maker needs, and to experiment and learn.

## Phase 2 - an entity and some formalisation

**Phase 2** would see a legal entity looking after the concept, even if this did not have, say, staff. It could still use a voluntary self-certification system, but at this point the processes would be more formalised. Companies wishing to use the mark would notify the entity, supply their documentation to the repository, and optionally there would be a checking phase where someone or a group would check the documentation before permitting use of the mark. The entity would raise funds and then register the trademark of the mark itself. At that point, the entity would be up to sending threatening letters to anyone using the mark without permission.

This phase could still operate on shoestring funds, with volunteer directors of the entity (assumed to be a nonprofit of some form), volunteer reviewers, volunteer advisory /steering committees, and grant applications (say) being written by volunteers. Or, if funding was available some of these tasks could be paid work for contractors (most likely, paid for by a grant in the first instance).

We imagine that the entity would be raising grant funds (or possibly some forms of investment) to support some properly funded activity before having a clear enough model and processes etc in place to enter phase 3.

## Phase 3 - a sustainable business model

Phase 3 is when we have a viable and sustainable business model, and therefore the resources supporting the mark's maintenance, enforcement and any certification/audit services are ongoing (rather than from one off sources such as donations, grants, and injections of investment).

A lot of work is to be done to come up with plausible ideas here, to estimate potential costs and income streams and to see what works (eg how many products do we need to certify to cover basic costs for a year of operation?). There is economic analysis to be done.

We don't yet know what the right model would look like but we can imagine income from

- Certification and audit fees
- Membership fees (industry association model)
- (Paid) Board seats for industry partners
- Licensing fees (from separate, external auditors who we approve as authorised to test applicants for the mark)
- [more ideas welcome!]

Ongoing costs we might expect to need to cover would be:

- Trademark registration fees
- Lawyers to go after anyone who uses the mark incorrectly
- Company accounts and regulatory filings
- Marketing - to raise awareness of the mark with new organisations (attending events, SEO, stickers, ???)
- Internationalisation (languages across europe; USA version; ???)
- [more ideas welcome!]

## Open questions

Who is willing to contribute volunteer effort to phase 1?

Who can offer in kind resources?

What grants might be available to us, or other sources of flexible funding which might fund a nonprofit entity?

What sort of business models might we want to look at for phase 3?

If we have models where investment funding would help deliver our goals, are we willing to consider a potential profit-generating entity? Perhaps a social enterprise, a BCorps, a member owned cooperative?

## What does success look like?

*Here's an idea of what success might look like. Comments and additions welcome! Agreement on this sort of thing will be important so that the community of interest are going in the same direction!*

December 2017: The #iotmark has officially registered the mark for Europe, with registration for North America pending. A company is officially in business with a small team working mostly part-time towards the shared goal and vision. Initial fundraising efforts have been going well. The budget at this size offers a runway of 6 months. More serious fundraising efforts are underway and look promising. Partnership talks have been going well: After initial conversations, an alliance of 5 values-aligned organizations work side by side to amplify each others' efforts towards increasing consumer trust in connected products.

June 2018: After a successful fundraising campaign, the #iotmark is funded with a full team for 18 months and for organic but ambitious scaling. In the EU and North America, the mark is gaining traction, expansion into South America, Asia and Africa is being prepared. Through partnerships and collaborations, the #iotmark has been establishing itself as one of several layers in the newly emerging ecosystem of IoT trust credentials alongside regulation-based qualifiers ("GDPR compatible") and industry-led, more aspirational (i.e. softer, more based on self-assessment v certification) approaches like Mozilla's IoT Trustmark initiative. Consumer rights organizations approve of the #iotmark and amplify its impact. Users and partners of the #iotmark include global tech companies, SMEs, startups, and product studios alike. This business makes the company self-sustainable. Additional funding and grants from European Commission, governments, and foundations complement the overall revenue and allow for faster scaling.

June 2020: The #iotmark is globally accepted as an essential building block in the IoT trust credential ecosystem. The company is fully self-sustainable and has a network of certifying organizations that handle certification at the local and regional level with guidance from #iotmark HQ. A recent PEW Research study confirms findings by consumer rights organizations world wide: IoT has become not just more secure, but much more trustworthy since the launch of the #iotmark.

## Notes from recent mtgs

### Coordination Call 24/8/17 - Laura + Peter

What is the scope of governance working group?

- Bootstrap models, early iteration
- Longer term form of mark eg trademark or something else
- Longer term business model - how this is resourced
- Partnerships eg UL, BSI, Which etc - may be aligned with model or an alternative
  - May fit with some business models but not others
    - eg BSI doesn't work with a separate trademark maybe?

NB: Laura and Peter may both have conflicts of interest which could limit participation in a future entity managing this trustmark

Is there a hierarchy of marks/seals etc? Covering different topics, maybe sectors... and different levels of formality

Mozilla - may be top level, nonbinary, setting high bar

IoTmark - needs to be compatible/aligned...

What should we do next?

- Flesh out what successful adoption looks like? - peter to do short outline
- Detail possible future stages? - laura to outline options
- Pose questions which would determine scale up route, to engage others?

Is this the right time to engage partners?

Do we have a clear scope and aims ?

What about speed?

Viable to have entity and trademark by Xmas (if funds can be raised) but is it valuable? May be a bit of a 'shell'

Different parts of the mark working at different speeds...

Mozfest ideas - limited bandwidth to do any prep in advance... but would be nice to do something

Values workshop on 11th - exciting! Important to get this clear

## Questions from 11/9/17

- Do we test once a year
- How do we test or audit?
  - Look at this again once the 'how do we test' sections are filled out for all the bits
  - Some may be technical test houses
  - Some may be softer tests by iotmark org
  - Some may be audits / spot checks
- Prototyping the test stuff - prototyping the mark - this is the self-reg phase, not serious use of mark but a way for us to assess the tests
  - Are the tests doable in reasonable resource
  - Are the tests giving reasonable pass/fails
  - Which test org / process would be a fit for that type of test
  - Then can think about partner structures
- Business model of IOTmark org is hard to see yet
  - The trademark holding stuff is easy
  - The test / audit partnerships are less easy
  - How do we raise a fighting fund to prosecute malicious use of mark
- How can a village in africa with a locally made product access our certification
- Test partners.... Companies who might trial the mark... what about retailers?
- Should we make an IOT-specific GDPR checklist to help (small) IOT biz?
- 

ACTIONS -

- Tidy up this doc into something clear
  - Then engage some more people other than laura + peter
- Set out timescales + plans
- Review the testability stuff - what partners and business models does this suggest
  - Economic analysis needed at that point - cost of effort

- Check for gaps that fall between the sections
  - Eg liabilities
- 

## ARCHIVE of original work in June 2017

Everything below here is for archival/transparency reasons only. Any edits should happen ABOVE!

### BACKGROUND .....

Braindump of possible kinds of mark or pledge

<https://docs.google.com/document/d/1a70DdPsiY5f928ilOCvxfBhulGODcUDXkIK63t5VrbY/edit>

We discussed 3 models, and a variety of key functions that might need to be carried out and factors to think about. We evaluated pros and cons for each of the 3. We then looked at what might be plausible as steps forward from where we are today, considering the breadth of IOT and resourcing.

**A formal registration of a mark** would be a trademark plus associated bits to link the regulation to it, probably a total cost of £3k-£5k. If someone moved ahead and used the graphic mark without our registering it, we'd have to challenge it...

3 models explored in more detail:

A: A pledge

B: Self-declared with central policing org

C: Fully audited, backed by legal framework

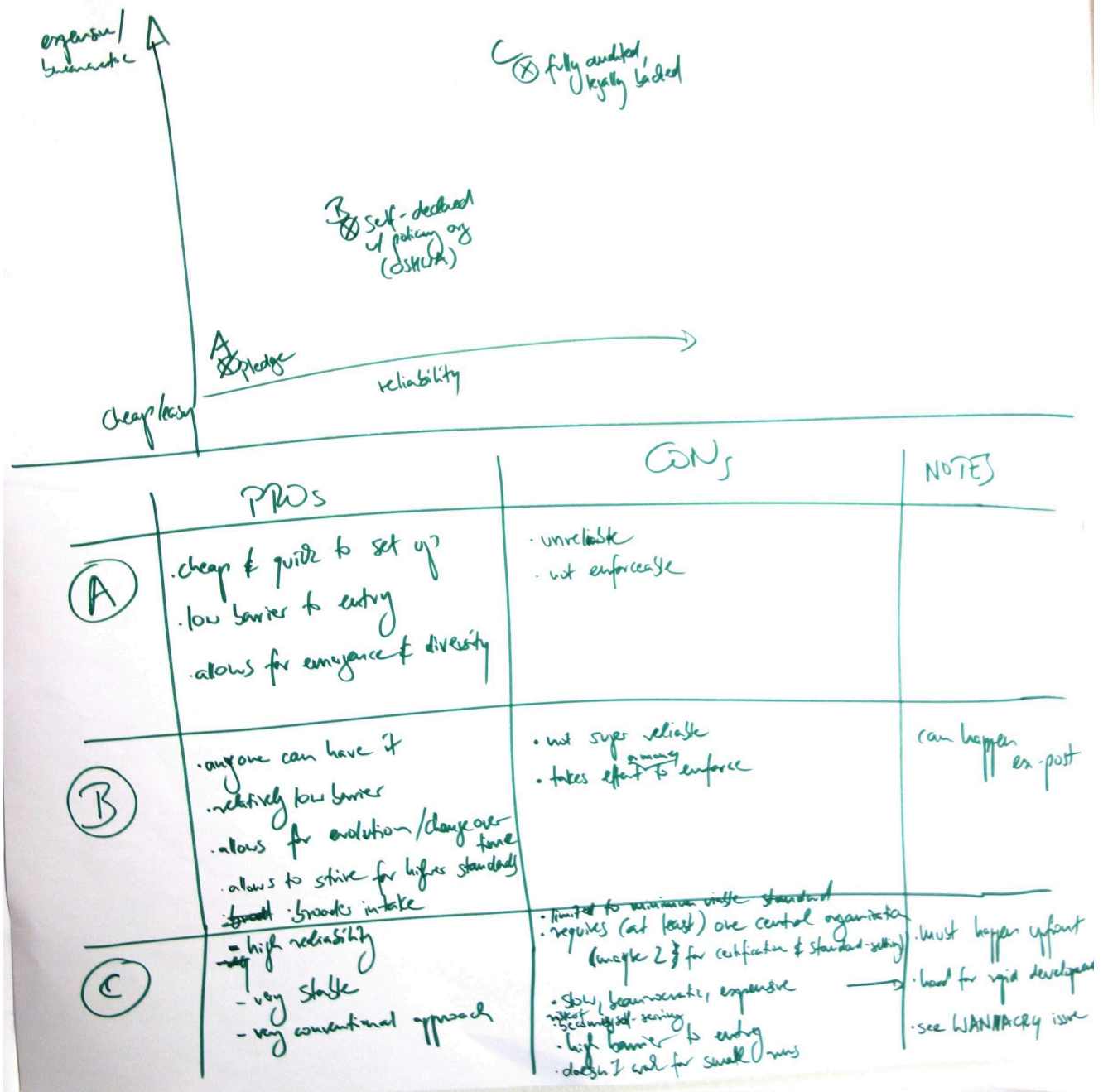


Image: Pros and Cons of various models

Where we are and how we could move forward with implementation:



# PLAUSIBLE MODELS

We are ? people in London

Should we engage more stakeholders?

eg ~~Mogitta~~ industry survey

other groups — sector-specific, countries, makers, users, regulators...

## RESOURCES

Volunteers

?

Orgs we could piggy back off

Other standards

Free labour from interested companies

Money  $\left\{ \begin{array}{l} \text{crowd} \\ \text{grant} \\ ?? \end{array} \right.$

## JOURNEY TO WORLD DOMINATION

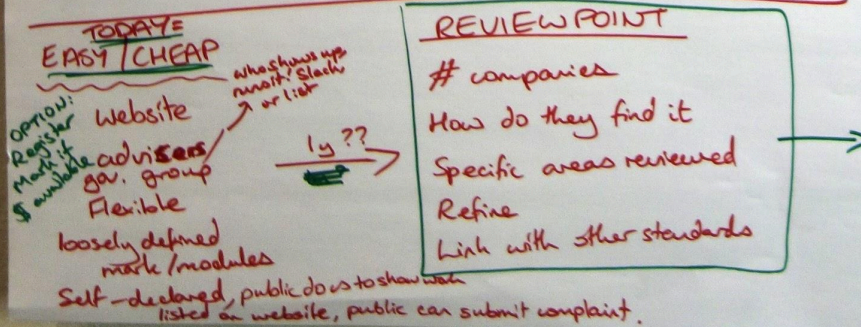


Image: A proposed organic approach, starting with a relatively low-barrier self-declaration of characteristics. This allows for a learning period that can formalise over time.

Things that might be documented as justification for use of the mark:

JUST EXAMPLES!!

	INPUTS	<del>DATA</del> PROCESSES	OUTPUTS
ORG	<ul style="list-style-type: none"> <li>· QUANTIFICATIONS</li> <li>· GOVERNANCE</li> <li>· BUSINESS</li> <li>· <del>APPROPRIATE</del> JURISDICTION</li> </ul>	<ul style="list-style-type: none"> <li>· REG. INTERNAL AUDITS</li> <li>· PAY TAXES</li> </ul>	<ul style="list-style-type: none"> <li>· CUSTOMER SUPPORT EXIST</li> <li>· TRANSPARENCY REPORT</li> </ul>
HW		<ul style="list-style-type: none"> <li>· <del>APPROPRIATE</del> STANDARDS / CERTIFYING</li> </ul>	<ul style="list-style-type: none"> <li>· "is it safe &amp; secure"</li> </ul>
SW	<ul style="list-style-type: none"> <li>· BEST CODING PRACTICES</li> <li>· TEST PLANS</li> <li>· SECURITY BY DESIGN</li> </ul>	<ul style="list-style-type: none"> <li>· PRIVACY BY DESIGN</li> <li>· PEN-TESTING</li> <li>· MAINTENANCE GUARANTEES</li> <li>· SENSIBLE HOSTING</li> </ul>	
LEGAL	<ul style="list-style-type: none"> <li>· ToS easy to understand</li> </ul>	<ul style="list-style-type: none"> <li>· DATA PROTECTION RULES ESTABLISHED</li> </ul>	<ul style="list-style-type: none"> <li>· NOT TOO MANY LAWSUITS</li> </ul>
DATA	<ul style="list-style-type: none"> <li>· GDPR COMPLIANT</li> </ul>	<ul style="list-style-type: none"> <li>· DATA <del>PORTABILITY</del> PORTABILITY?</li> </ul>	<ul style="list-style-type: none"> <li>· BREACH NOTIFICATIONS</li> </ul>

links to other frameworks where they exist

- sectors
- device types
- country-specific

→ 10, 10m!

Very flexible for our range of scales, types of product/service,

Image: Example characteristics to provide declaration/documentation about. Since the range of [even just] consumer IoT is extremely broad, the applicable categories and implementation depends on the context of each product/service.

Thinking about 3 models, functions that need to get done, and a few other things:

# GOVERNANCE, AUDIT ETC

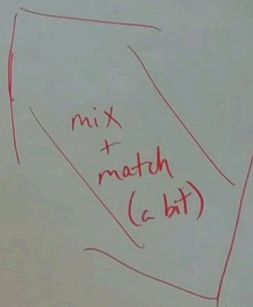
(A) Charter / pledge  
Good for "values"

"stiff"  
but  
easier to implement

(C) Audited mark  
Take a test, get a badge

"more trustworthy"  
but  
more expensive

(B) Self-declared mark  
eg OSHWA  
Register with a central index  
Could be "struck off"



- for
- a new body or bodies
  - an existing certifying body
  - the "community"

ORGANISATIONAL / INPUT  
eg % prof qual engineers  
- easier + more stable measure

DOCUMENTATION / RECORDS  
- on demand  
- public registry (central)  
- published

⇒ Scales from Startup to big corp (just different types + amount of docs)

CENTRALISATION

GOOD OR BAD?

FEDERATION - to allow specialisation, eg specific body for cars

## FUNCTIONS

§ AUDIT / TESTING (if clear standards)

SETTING STANDARDS

↳ Evolution with tech  
↳ Raising The Bar over time?

OPERATE REGISTER / LIST  
(including checks, maybe)

Spot checks? ←

§ ASSET REG / HOLDING  
eg Trademark of the mark