**A.** Currently, the goal is to poll industrial entities (small/large, domain specific or not), as well as clinicians or other users who would be likely to use our software and who would influence industry’s decision to invest in translating and maintaining research tools.

**B.** The current plan reflects primarily imaging and clinical informatics-related thoughts. Can the group augment the scope of this committee’s work to better reflect the genomics and other omics areas? Anyone who would like to step out into guiding the discussions of those areas?

**C.** Discuss the format of discussion with various industrial and clinical people. The current thinking is that 1-2 people will take charge of setting up t-confs whenever possible, and whoever wants to join can join. Otherwise scheduling many/all people for all talks might get extremely difficult. We might end up setting up at least a dozen calls. People should summarize the gist of the discussion soon after the call, with the 1-2 people taking charge of each call getting the ball rolling with a draft.

**D.** Cover both the long-term maintenance of open-source software, and the translation into commercial products.

**E.** Hopefully by the end of the year we will have collected all individual pieces, and we will start integrating them into a white paper, or perhaps a citable paper if we find a suitable journal (maybe JCO-CCI?).

**F.** We want to come up with a deeper understanding of several issues that will become sections of the paper. We want to understand 1) the process for priority setting by industrial partners; we, of course, know the priority setting process for our group, and we can discuss it; 2) what defines a clinically significant tool/algorithm that would raise interest in investing on its long term support; 3) how the open source spirit of the ITCR can synergistically work with profit-making interests of industry in the context of ITCR s/w sustenance; 4) funding mechanisms for such partnerships, as well as optimal structure (e.g. early or late industry involvement?); 5) how can some common ITCR-wide strategies and connections with industrial entities help the whole group so that our total is more than the sum; 6) Describe examples of successful industry-academia partnerships

**G.** Define metrics of success in terms of partnerships, SBIRs, generated IP etc.

**H.** Potentially talk to tech transfer offices, albeit some people expressed not-so-successful experience with them in software development areas.

**I.** We need to categorize the categories of partnerships we envision. (Juli started a [Google doc](https://docs.google.com/document/d/1HcCCA92pu3ZVV5Bm_tj8VSP_16_7AXR1dS6XZn_ENfE/edit) on this, inspired by<https://link.springer.com/article/10.1007/s10664-019-09711-y>).

Some points to have in mind in discussions/t-confs with the various groups:

Industrial partners:

--What are the most important criteria evaluated by industry when software is picked up for further development (and integration) into commercial products?

--How can the open-source direction of ITCR co-exist synergistically with profit making from commercial products in the context of long term s/w sustainability? How can industry guarantee that researchers will continue to truly have free access to their and others’ software?

--What funding model would an academia-industry collaboration have? There are several models, including each side funding their own work toward a common goal, or applying for AIP grants, etc. On the context side, should we foster joint research work, or should academia serve as the main driver of cutting edge research and industry as the main driver of product development?

--Would an early involvement of industry in the project make it more likely and easier for long-term sustainability via industrial development and productization, or would industry prefer to see the research tools “incubated” in NIH-funded research mode, until they become relatively mature?

--What level of financial support is industry willing to invest on such partnerships?

--What does industry want to get out of such a collaboration? Cutting edge algorithms? Datasets? Trained AI models? Know-how? Increased numbers of people to use their cloud service? Other?

--For cloud computing partners (non-domain experts): what is the value of these tools, and would they see value in contributing to sustained support of these tools, or is their primary goal just to provide computing infrastructure for algorithms/pipelines supported entirely by ITCR groups? Do they see value in investing in academia-industry partnerships for long term sustenance of S/W as a means to attracting more cloud computing users? Given that these companies might not have sufficient domain expertise (albeit they have outstanding general informatics expertise), how can these partnerships best evolve?

Key company here - DNANexus

--How do FDA regulations influence industry’s position toward adopting research tools like the ones built by ITCR investigators?

Ongoing KOL group in pathomics and AI consortium (Saltz, Sharma, Madabhushi) with Brandon Gallas at FDA. Good Person to engage on this discussion. Brandon has previously presented to ITCR and keen on working with ITCR

-Clinicians:

-- Companies that develop products for the health care systems always ask their customers, e.g. hospitals or diagnostic facilities, what functionality they would like to have in their workstations. A cool research tool will typically not be of interest, unless a clinician asks for it. We would therefore like to understand clinicians’ view of what is clinically important or not (radiologists pathologists, oncologists, surgeons). This sometimes might be exactly the opposite of what a researcher might think of a cool new tool which might be solving a less significant problem. Put together some representative examples as well as counter-examples (such a tool might be so cool, but it wouldn’t right now quite solve a clinically important problem).

--Discuss examples of ITCR tools, and obtain feedback about how they would fit into current clinically used workstations. This would parallel (or even draw from) the discussion of various tools in the first paper by Mike et.al., but coming mainly from the perspective of adoption in commercial products.

\*\*\* input from genomics folks here would be great, e.g. posing questions that pertain more to drug development etc

People From Industry, Pharma and Clinic to Engage in this effort

George Lee, BMS

Vamsidhar Velcheti, NYU (Thoracic Oncologist)

Mark Lloyd (Inspirata)

Couple of additional citations and references that might be useful to the group

<https://www.ncbi.nlm.nih.gov/pubmed/31399699>

<https://www.ncbi.nlm.nih.gov/pubmed/30976107>