Technology Management

The newsletter of the Centre for Technology Management (CTM)　　　　　July 2017

IP management US road trip

In June, Dr Frank Tietze went to Silicon Valley and New York for a research trip linking up with leading IP academics and IP practitioners from the west and east coasts. Highlights of his trip included meetings with Google's head of IP, Intel's former head of IP and academic colleagues, such as Stephen Haber (Stanford Hoover IP group), Coleen Chin (Santa Clara University) and Robin Feldman (UC Hasting). During the trip Frank also attended the IEEE TEMSCON and DRUID conferences, where he presented first insights into IP models to accelerate transitions to sustainability, an early stage project recently started with colleagues from FU Berlin, Kiel University (Germany) and Indian Institute of Science (Bangalore). During that trip Frank also met with Mingjin Guo, one of our CTM students, who has been conducting interviews in the Silicon Valley after a trip to China and interviews in the Shenzhen cluster for studying the impact of ecosystems and complementors on firms' IP strategy.

Technology Ventures Network

CTM is launching a new initiative called the Technology Ventures Network (TVN). TVN offers a member-based platform for industry to explore opportunities for research-based technology ventures with experts from CTM. Building on the IfM's strength as a leading player in Cambridge's entrepreneurial ecosystem, TVN allows its members to co-explore ideas and co-develop them into customised or consortia projects. TVN organises an annual event to inspire ideas and bring together members with shared interests. The first TVN event will take place on the 29th September 2017 at the IfM.
Please contact Dr Thomas Bohné (tmb35@cam.ac.uk) for more information about TVN, and on how to become a member and attend the event on the 29th September.

Technology Venturing Executive Education Course

CTM will run a 1-day executive education course on technology venturing on the 28th September 2017. Participants will learn about the latest insights and best practices on turning technology into new business ventures. The course is aimed at professionals and decision-makers who are actively engaged in technology venturing, be it as managers (R&D, innovation, technology, strategy), investors (venture capital and corporate venturing), consultants or entrepreneurs. Please contact Dr Thomas Bohné (tmb35@cam.ac.uk) for more information about the course.

Strategic Technology & Innovation Management update

The Strategic Technology & Innovation Management (STIM) consortium programme is now in its fifth year, with more than 20 member companies participating in 2017, and more than 15 research projects: www.ifm.eng.cam.ac.uk/research/ctm/stim.

STIM is an annual programme, with a series of two-day events held through the year, along with research project related activities. The most recent meeting was held 6-7th June in Cambridge, comprising three elements:

News update

1. Network meeting (6th June), focusing on research, including short update presentations from each project, followed by a 'walk-about poster' session allowing for individual project-level discussions. For example, the 'R2' project (#4) aims to refine and test a workshop template for determining the strategy for business processes such as roadmapping. This has recently been trialled in a large workshop associated with the merger of two firms (see photo), and is available for further testing within the STIM consortium and wider.

2. Member Forum meeting (7th June, morning), providing an opportunity for companies to share experience in an informal setting. The topic for discussion this time was on how roadmapping systems can be developed, with specific reference to the need to identity and manage technological synergies and dependences across business units. The challenge was framed by one company, followed by small-group discussion and feedback.

3. Research workshops (7th June, afternoon), focusing on specific research project engagement, with three workshops running in parallel:
a) 'The development of business models to anticipate disruption' which used a 'science fiction prototyping' approach as a means for exploring future business models that might be enabled by emerging technology such as additive manufacturing. Contact: Letizia Mortara, lm367@cam.ac.uk.
b) 'Sustainable value roadmapping' tool workshop, to test the latest version of an approach that considers economic, social and environmental value taking a life cycle perspective. Contact: melanie.despeisse@chalmers.se.
c) 'Mapping corporate innovation projects and ventures', where the final results from a PhD project was validated, which has developed a framework of technology venture architypes based on more than 30 cases in the UK, The Netherlands, Japan, Australia & USA. Contact: Yuta Hirose, yh359@cam.ac.uk.

STIM is an annual programme; the launch meeting for 2018 is scheduled for 22nd November – please contact Rob Phaal if of interest (rp108@cam.ac.uk).

Leonidas Aristodemou talks about "Building Intellectual Property Awareness" at the Pat-Tech Exchange 2017 conference

Leonidas Aristodemou spoke about "Building Intellectual Property Awareness" at the Pat-Tech Exchange 2017 conference in Dublin, Ireland.

Tell me…and I will forget, show me…and I may remember, involve me…and I will learn (Confucius, 450 BC)

Leonidas Aristodemou, one of CTM's PhD students was invited to give a talk on "Building Intellectual Property Awareness", at the Pat-Tech Exchange 2017 conference. The Pat-Tech (Patent Strategy for Technology) conference is an-invitation only event with senior IP directors, executives, IP service providers, and in-house counsels. Leonidas gave a joint presentation with Stephan Wolke, CEO, thyssenkrupp Intellectual Property GmbH. His presentation was concentrated on the ways we build IP awareness involving and engaging the academic and industrial community, and how we educate future graduates about the complex and multi-disciplinary topic of Intellectual Property. Special focus was given on the Intellectual Property game, developed by Dr. Frank Tietze and Dr. Ghita Dragsdahl Lauritzen, and how it can be utilised to understand the complex mechanisms and nature of intellectual property.

CTM supports students researching digital manufacturing in Japan

Each year, 20-30 of IfM's final year manufacturing students organise an overseas research project. This year, the students will be exploring the ways in which Japanese firms are implementing digital manufacturing technologies. During their two-week visit they will visit large companies in Tokyo and Kyoto including IBM, Fanuc, Omron, Daikin, Murata and Kyocera. The team will also visit a range of research institutes, startups, and traditional firms who are implementing different aspects of digital manufacturing.

Such trips rely on sponsorship to cover the costs of travel and accommodation, and CTM is delighted to be supporting the students this year. The results of their research will be presented at an event at the IfM in September.

Digital Manufacturing at the IfM

Thanks to the increasing interest in Digital Manufacturing expressed by the UK Digital Strategy[1] as well as across the different centres in the IfM, Prof. Duncan McFarlane (DIAL) put together the IfM Digital Manufacturing (DM) interest group to explore the various opportunities around the topic. A DM Action Team with members from different IfM centres were formed to coordinate the activities and communications of the interest group. Bang and Serena are taking part in this team on behalf of CTM. On 15th June 2017, a Digital Manufacturing seminar and a tour with demonstration of DM activities across IfM took place (organized by IfM DM Action Team). At the event, CTM showcased the City Car Game, an educational tool used for product development and commercialization, and the Virtual Reality Supply Chain Visualizer, a software tool used to visualize complex supply chain networks in 3D space.

[1] https://www.gov.uk/government/publications/uk-digital-strategy

SIPF 5 on "Intellectual property strategies in software"

In May, we ran the fifth Strategic IP Forum. This time the event focused on IP strategies in software covering a number of different topics, such as IP in the world of artificial intelligence (Gareth Jones, BenevolentAI), IP challenges in big data businesses (Anthony Finbow, Eagle Genomics), how to commercialize technology in organizations with open data and open access policies (Ross Rounsevell, Wellcome Trust Sanger Institute), open source compliance (Martin Callinan, Source Code Control) and new approaches to IP insurance for cloud software solutions (Patricia Christias, Microsoft). We are glad that SIPF seems to attract an increasing audience from Cambridge and beyond. We are keen to hear suggestions for topics and speakers from the community. Any ideas? Get in touch! Contact: frank.tietze@eng.cam.ac.uk

Future of Patent Analytics project

We recently completed the future of patent analytics project supported by the Cambridge Big Data strategic research initiative, the EPSRC and Aistemos. The project involved numerous experts from different stakeholder groups, such as fellow academics, leading users in industry, patent offices, patent software solution vendors and lawyers. These participated in a survey to identify key problems in the patent analytics domain, if solved would lead to major breakthroughs for further developing patent analytics solutions. It became clear during the project that the patent analytics domain is at a tipping point with AI (artificial intelligence) technologies, such as machine and deep learning, natural language

processing slowly but surely hitting the domain, with major changes – hopefully improvements – to be expected and further enabling new use cases. Watch out for the project report after the summer break.

Activities we are starting up with IP roadmapping

Dr Frank Tietze, Dr Rob Phaal, Tianyi Wang and colleagues from IfM ECS have recently kick-started activities to develop solutions for supporting organizations in aligning their IP portfolio and technology planning efforts with top-level strategies. The roadmapping approach – a generic strategy planning framework in which CTM possesses leading expertise – seems more than suitable and capable for this task. If you like know more about this research project or possibly to participate in piloting activities over the next months, please get in touch with Tianyi Wang (tw405@cam.ac.uk).

People news
We welcome

Sophia Bittner-Zaehr from Technical University Dresden, Germany has joined CTM IIPM as visiting researcher for one month. Her research is to identify contributions of Alumni and former employees and to facilitate their activation as a resource within Technology Transfer processes. Her study compares different organizational levels at three universities in Israel, the UK and Germany. Her work is part of a joint project between Karlsruhe Institute of Technology (KIT), Helmholtz Center Dresden-Rossendorf (HZDR) and the TU Dresden.

We say goodbye to

Mélanie Despeisse who was a research associate with CTM investigating the potential role of additive manufacturing in transitioning towards a more

sustainable society. We congratulate her on her new job as an assistant professor at Chalmers University of Technology.
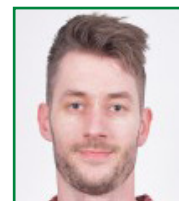
Pratheeba Vimalnath who was a visiting researcher at CTM working with Frank Tietze on the Intellectual Property (IP) strategies for sustainability transitions particularly focusing on the open IP models.

Benoit Tezenas Du Montcel who was working on how companies adapt to digital manufacturing and the consequences for their value networks. He has now gone back to National Conservatory for Arts and Craft (Cnam), France.

Heiner Lutjen who joined CTM as a visiting student working with Frank Tietze in April. Heiner is a third year PhD student and worked as research associate in the field of technology and innovation management at Kiel University. Heiner's research focused on servitization, product service systems and service innovation with particular interest in exploring the transformation processes of energy utilities.

Benjamin Schönfuß who was working with Thomas Bohné on developing a framework to translate complex societal challenges into future business opportunities. He has now returned to RWTH Aachen University.

Cecilia Angioletti who was working with Mélanie Despeisse on the efficiency and sustainability of manufacturing. She has now returned to Politecnico di Milano, Italy.

Technology management research at Cambridge

- Strategic technology management
- R&D project selection
- Software sourcing in manufacturing
- Enhancing creativity in new product development
- New product introduction collaboration
- Technology management: a process approach
- Technology selection
- Technology evolution in hi-tech firms
- Innovation management in hi-tech firms

- Emergence of technology based industry
- Technology scanning and intelligence
- Technology acquisition
- Intellectual property management
- Strategic make-or-buy
- Industrial make-or-buy decisions
- Sustainability and technology insertion
- Technology valuation
- Technology foresight

Congratulations

We congratulate **Dr Serena Flaminni** on successfully defending her PhD thesis "Emerging Technologies and Their Influence on Business Model Dynamics: Case Studies of 3D Printing in the Food Industry" from Roma Tre University.

New publications

Aristodemou L., Tietze F., Athanassopoulou N., Minshall T., (2017), 'Exploring the Future of Patent Analytics: A Technology Roadmapping Approach', Paper to be presented at the R&D Conference 2017, Leuven, Belgium.

Guo, M., X. Shi and F. Tietze, (2017),'Ecosystem Strategy in Technology Licensing'. CTM working paper series. Institute for Manufacturing. Cambridge, UK. https://www.repository.cam.ac.uk/bitstream/handle/1810/265035/17_01_Guo_Shi_Tietze.pdf

Lütjen, H & Schultz, C., (2017), 'The impact of top management teams on service transition – An upper echelon perspective', Servitization Spring Conference, Luzern.

Tietze, F., (2017, 18 May), 'How a Free-for-All on Patents Could Help Build a Sustainable Future', The Independent.

Wang, T., Tietze, F., Phaal, R., & Athanassopoulou, N., (2017), 'Roadmapping for Strategic Management of Intellectual Property', Paper to be presented at the R&D Management Conference, Belgium.

Wolf, P., Tietze, F., Schweisfurth, T., Moultrie J., (2017), Design Paper 'Registered Design Rights as Innovation Indicator' R&D Management Conference, 2017.

Diary 2017   www.ifm.eng.cam.ac.uk/events

September		
28	*Technology Venturing Course*	One-day course

October		
5	*Strategic Roadmapping Course*	One-day course

Contact us

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