Recognising Inventions or "Asset Creation“ – An Industry Research Center Example

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Canon

Canon R&D

- Canon in general
  - Products (imaging systems

, office

, industry and others

)
  - Markets (3 regional headquarters)
  - 35.5B $ revenues, 194,151 employees, 3,817 US patent applications (year 2013)
- Global, distributed R&D
  - Business units R&D
  - Corporate R&D
  - Japanese & overseas research centers
- Canon Research Centre France (CRF)
  - Mission deliver, and protect, advanced technologies in imaging and networking, suitable for embedded devices
  - 70 employees (45 researchers/inventors, 90 inventions per year)

Canon Business Strategies

- Business Strategies
  1. "Realizing the world's no. 1 products through **innovation**"
  2. "Globalizing **innovative** technologies"
  3. …

Source: Canon Excellent Global Corporation Plan Phase IV 2011-2015

- Significance
  - Canon is an electronics equipment designer & **manufacturer**
  - Does not compete on price but on (differentiated) features
  - Canon has thus a strong need for technical innovation
  - Patents are thus the corner stone of all evaluations in the company
    - Business interest, research themes, researchers and even organizations

Canon Research Centre France

- Projects
  - Medium (3-5 years) to long term (7-10 years) research – examples
    - DASH video streaming
    - THz communication
  - Targeting future products or standards – examples
    - HEVC video compression standard
    - HTTP/2 web communication protocol standard

- Strategies
  - Product-related strategy : Patent most promising ideas, extend selectively – or know-how
  - Standard-related strategy : Patent all ideas, filter out later, extend widely

Product-related Innovation Strategy

- Project creation
  - Select research themes based, in part, on scope of new patent creation, after extensive prior art analysis
  - Determine major issues to be solved & patent strategy, set timeline
  - *No concrete product in mind at this stage*
- Year *n*
  - Decide yearly patent objectives
  - Assign technical areas to specific inventors
  - Research prior art, draw/update patent map
  - Organize brainstormings (within team) or cross-fertilization (with other teams)
  - Filter and file
  - Monitor and review objectives often
- Project termination
  - Distribute portfolio to follow-up project(s)

Standard-related Innovation Strategy

- Pre-standard (~2-3 years)
  - Develop technology for subsequent proposal to standard
  - File core and application patents
  - Submit technology for inclusion as core technology
- Every ~3 months
  - Improve technology (own or competitor's) or create new technology
  - Patent, submit, defend, negotiate
  - Check previously accepted patents are still within standard
    - Defend vigorously
    - Shift claims if necessary, file divisional applications
- Post-standard
  - Continue monitoring standard, shifting claim and prosecution
    - Not just patent engineers but also inventors

Common Strategy Elements – Projects & Patent-engineers

- Project-related strategy
  - Patent often
    - Patent as soon as new idea or improvement idea is identified
    - Possibly abandon previous ideas or merge during subsequent priority filing (to optimize cost)
  - Set challenging objectives
    - Each project to deliver about 2 ideas per member per year
- Patent-engineer-related strategy
  - Priorities
    - Priority to new ideas (core CRF business)
    - Delegate less strategic work to external attorneys
  - QA
    - Review all case documents carefully, including proposals from external attorneys

Common Strategy Elements – Inventors

- Train new comers intensively
  - 1 week IP training within 1st year of employment
  - Mentoring by 1 experienced researcher in the field/project
- Involve inventors in all patent matters
  - Idea generation (of course)
  - Technical note writing (deemed remarkable quality in French industry)
  - Patent drafting, 2nd country decisions, search reports, office actions
- Promote & remunerate extensively
  - Remuneration for all major events (idea, technical note, filing, granting)
  - Yearly patent award (3 best inventions, 3 best inventors)
  - Encourage career path towards patent engineer
- Provide easily accessible support tools
  - Case data, Prior art search

Thank you

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