Topic 4

Building a Competitive Edge:

Protecting Inventions by Patents and Utility Models

Training of Trainer's Program, Teheran

8 June 2015

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WORLD
INTELLECTUAL PROPERTY
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AGENDA

- Introduction
- Intellectual Property (IP) Context
- What do we mean by «**innovation**» ?
- What is IP
- Patents and Utility Models
- Patent owner, vs patent user
- Reasons for patenting
- How to read a patent

AGENDA

- Patent examination
- Sourcing of inventions
- Precautions before filing
- Patent prosecution
- Infringement
- Dispute Resolution

HISTORY

- In antique Grece, a regime similar to IP was in place (Greek colony, Sybaris, Calabria, Italy)
- First known industrial patent known: in 1421 by Filippo Brunelleschi in Florence, Italy. Storage and manutention of goods for boat transportation.
- England, 16th century: patent letters (granting monopolies).

INTELLECTUAL PROPERTY CONTEXT

- World Economy more and more competitive.
- Differentiation through inventive ideas.
- Need to act on market forces (competition, bargaining power of buyers, threat of new entrants).

INNOVATION

Set of processes which take place from the appearance of an **idea** down **to** its **materialisation** (product launch). Intermediary steps include market studies, prototype development and the first stages of production

(translation from Larousse).

INNOVATIONS

- **Types** of innovations/ patents
  - **Incremental** innovations (most of them).
  - **Disruptive** innovations.
- **Sources** of inventions
  - Everywhere in an organization: factory, marketing, R&D, etc.
  - Also outside an organization: customers, suppliers.
  - **From an identified (market) need.**

WHAT IS INTELLECTUAL PROPERTY

- Property resulting from **creations of the human mind**, the intellect.
- Important and useful form: **PATENT**.
- Exclusive right **granted by the government** to protect and defend an invention.
- Protection for industrial assets.
- Effectively decreases competition.

WHAT IS INTELLECTUAL PROPERTY

- **Litterary and Artistic** Property (right appears with creation)
  - Copyrights
- **Industrial Property** (needs formal protection)
  - Patents
  - Utility models
  - Trademarks
  - Geographical indications
  - Trade Secrets/ Secret Know How

PATENTS vs UTILITY MODELS

- **Patents** undergo thorough examination: novelty, inventiveness, industrial application are established.
- **Utility models**:
  - much less stringent to acquire: inventive step not assessed by examiner.
  - Shorter protection: 7 – 10 years vs 20 for patents.
  - Not all countries offer Utility Models.
  - Not all fields of technology available.

PATENT vs UTILITY MODEL

Patent	Utility Model	Design	Trademark	Copyrights
20 years from date of filing	7 to 10 years from date of filing	Maximum 25 years from date of filing	Renewable every 10 years (obligation to use)	70 years from the death of the author (50 years for software)

Source: Reuteler & Cie SA, www.reuteler.net

PATENT

- Right to **exclude**, not to practice (making, using, selling or importing).
- Anyone can practise an invention for non commercial purposes. Example: research.

PRODUCT VS PROCESS PATENTS

- **Product** patents
  - Protect rights related to technical features contained in physical/ digital products which are sold on the market.
- **Process** patents
  - Protect rights related to methods of fabrication. Not directly related to products available on the market. Harder to use for defense.

PATENT OWNER vs USER

- **Owner**: decides who is allowed to exploit, how and where. Owner does not necessily exploit his own patent.
- **User:** obtained a right to evaluate or use a patent. Usually field, geography, time, market segment, etc specific.

WHO IS THE OWNER ?

- Inventor - > if he/ she is self employed
- Employer - > **Yes in general**
- Contracting party -> Yes, to be negotiated on a case by case basis

WHO IS THE INVENTOR ?

- Person who funds the work/ research ?
- Boss ?
- Collaborator doing the experimental work for the person who generates the idea ?
- Person providing moral support ?
- Person who generates the idea of the device/ process and how it works ?

√

PATENT

- A patent may be dependent on another one: **several players are allowed in the same field** (can practise).

REASONS FOR PATENTING

- Stop competition, increase revenues, **discourage competition**.
- Add new revenue streams on top of products/ services sales. Example: **licensing**.
- **Fund raising**
  - Patents as a class of assets:
    - Contribute to the valuation of a company: indicate a reduced commercial risk.
    - Collateral for bank loans.
    - Can be sold, licensed.

Startups/ Venture Capital

REASONS FOR PATENTING

- Lever for «freedom to operate» negotiations.
  - **Cross-licensing**.
- Strategic Partnerships, IPO, M&As
  - Patent portfolios are synonymous to – secure market entry and low risk. They **increase attractiveness of companies** owning them.
- Combination of patented and non-patented products: «convoyed sales».

REASONS FOR PATENTING

- Management tool: employee-inventor reward.
- Marketing and branding: «patented», «patent pending»: **indication of quality**, novelty, superiority.

STRUCTURE OF A PATENT

- Bibliographic data: owners, priority date, title.
- Abstract.
- **Description**: how to make the invention
- Drawings.
- **Claims** (heart of the patent): scope of the legal protection

A patent is a recipe to make an invention

HOW TO READ A PATENT

TITLE

ABSTRACT

BACKGROUND
«field of the invention, state-of -the-art, problem to solve»

Prior art
Presentation of the problem to solve

SUMMARY OF THE INVENTION
«purpose of the invention, key characteristics»

Description of the **solution**

SHORT DESCRIPTION OF DRAWINGS
«purpose of the invention, key characteristics»

DRAWINGS

DETAILED DESCRIPTION
«one or more embodiments of the invention, references to drawings»

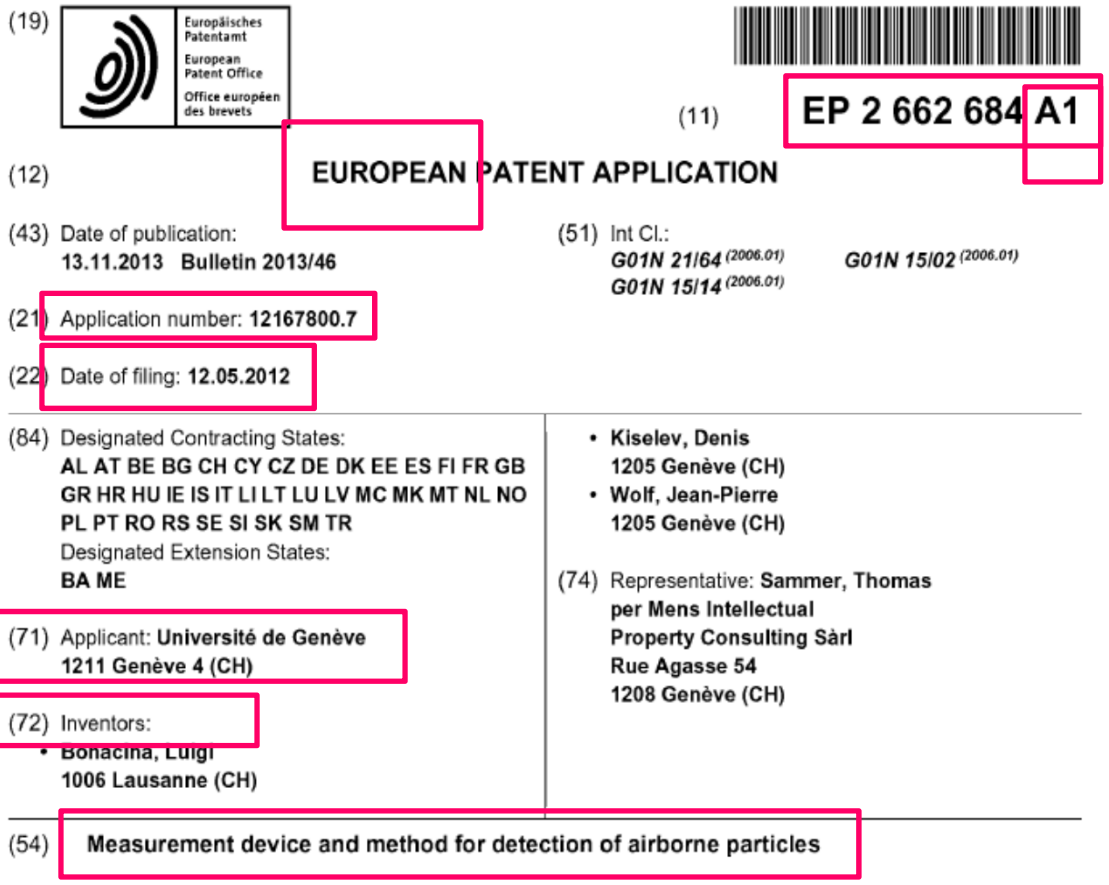
Guide for «person skilled in the art» to reproduce the invention

CLAIMS
«independent and dependent claims»

Scope of protection

Source: Reuteler & Cie SA, www.reuteler.net

FIRST PAGE OF A PATENT



(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 662 684 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
13.11.2013 Bulletin 2013/46

(51) Int Cl.:
G01N 21/64 *(2006.01)* ***G01N 15/02*** *(2006.01)*
G01N 15/14 *(2006.01)*

(21) Application number: **12167800.7**

(22) Date of filing: **12.05.2012**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

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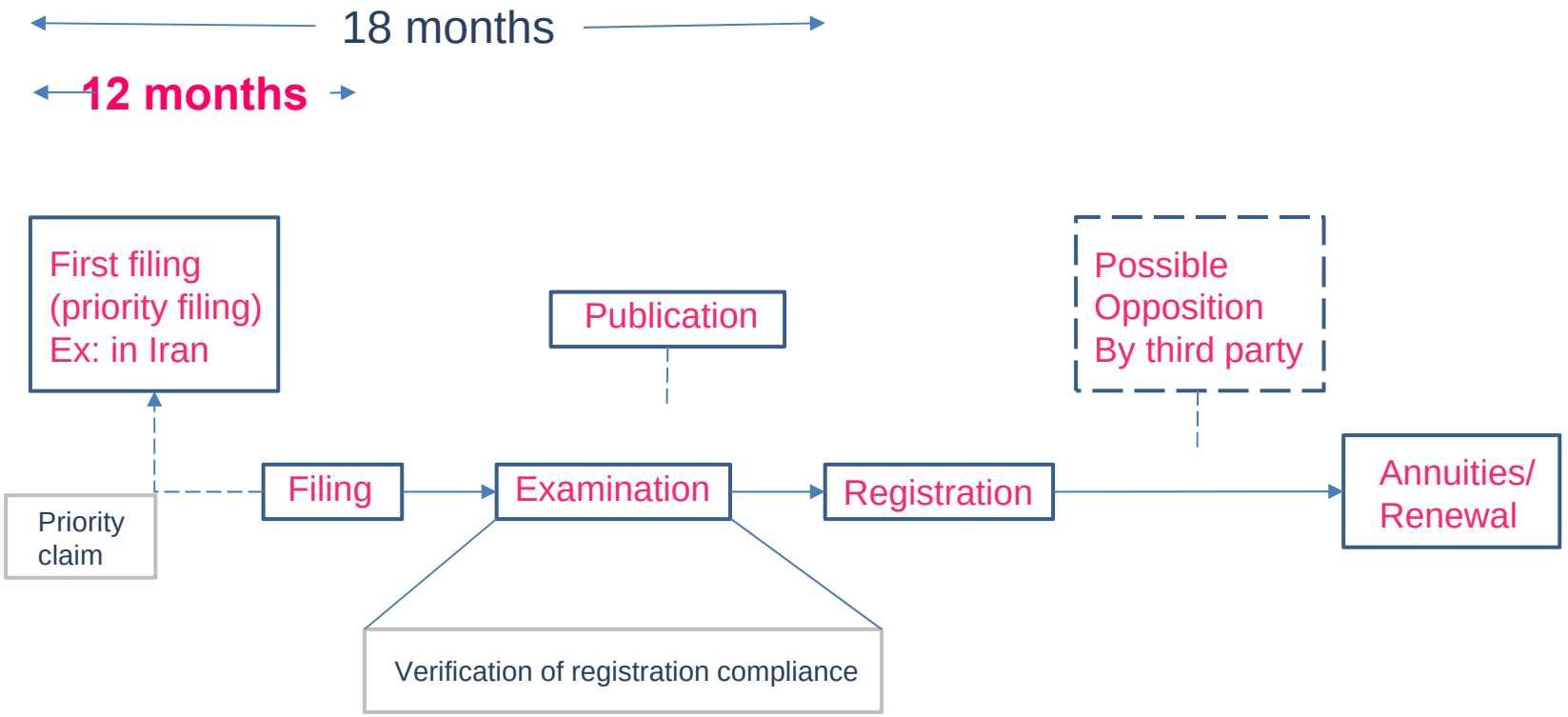
(54) **Measurement device and method for detection of airborne particles**

«A» patent application
«B» granted patent

PATENT FILING



Source: Reuteler & Cie SA, www.reuteler.net

APPLYING FOR A PATENT

- Prior art search (not compulsory): check novelty
  - Patent databases
  - Litterature (incl. internet)
- Market search:
  - Is there a market ?
  - What are the characteristics of this market ?
  - Evaluate cost-benefit ratio. Is it worth it ?

- **Patentability** information
- **Freedom to operate** information
- **Scope of the patent** (broadness)
- Features of the invention (claims)

WHEN TO FILE A PATENT ?

20 years protection; **pay from day one**

- Balance between
  - Late filing: risk of appearing prior-art, risk of disclosure.
  - Too early filing: lack of experimental data, weak patent application, risk of opposition, early expenses.

-> try to file when at least some experimental data is available. If not possible try to get this data within 12 months.

Source: Reuteler & Cie SA, www.reuteler.net

PATENT EXAMINATION PROCESS

- Substantive examination.
  - Most patent offices check (i) novelty, (ii) inventive steps, (iii) industrial applicability. Not performed for Utility patents and Designs.
- Formal examination
  - Switzerland for ex. (dealt at the time of infringement action).

SOURCING INVENTIONS

From within organization

- IP ownership & assignment
  - Work contract.
- Sourcing:
  - University regulations/ law (**legal aspect**)
    - «It *is compulsory for all employees to announce without delay all intellectual property which carries commercialization potential. It aims at preventing early disclosure which may jeopardize its protection.»* (University of Geneva, Technology Transfer Guideline)
  - Maintain good relationships with researchers (**human aspect**)
  - Serve them (as a TTO or an IP Department) beyond their expectations.
  - Foster inventiveness: contests, rewards, publicity.

SOURCING INVENTIONS

- From outside the organization:
  - Partnerships, R&D collaborations
    - **in-licensing, purchase IP**
  - Open Innovation

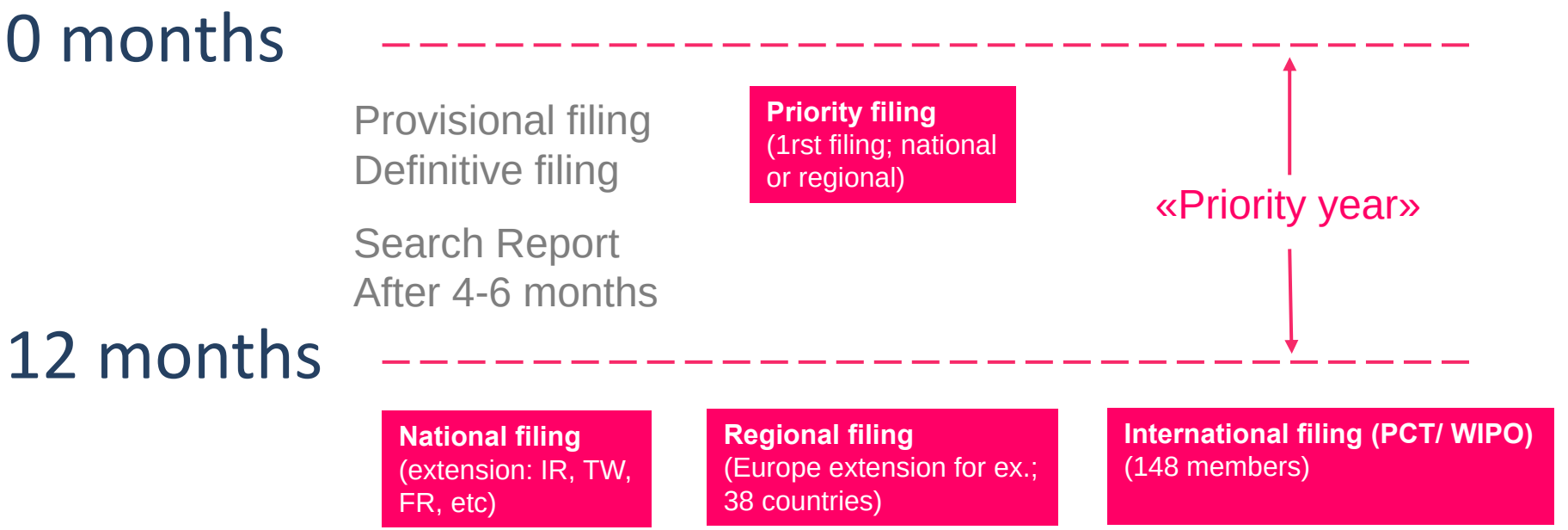
PRECAUTIONS BEFORE FILING

- Competitive advantage (companies): **safeguard trade secrets**
- Mission of Universities: **disseminate** knowlege
- Important precautions:
  - **Patent first, publish after** (for academic researchers in particular).
  - No disclosure before patent filing:
    - No poster.
    - No conference.
    - No publication.

PRECAUTIONS BEFORE FILING

- Ownership of intellectual property rights.
  - **Ownership versus rights to use** must be clarified
- If ownership is key:
  - Make sure the inventor assign their rights to your organization.
- If having appropriate rights to use is sufficient:
  - Make sure that you have (or will get) appropriate rights in the form of exclusive/ non-exclusive licences.

FILING STRATEGY



Source: Reuteler & Cie SA, www.reuteler.net

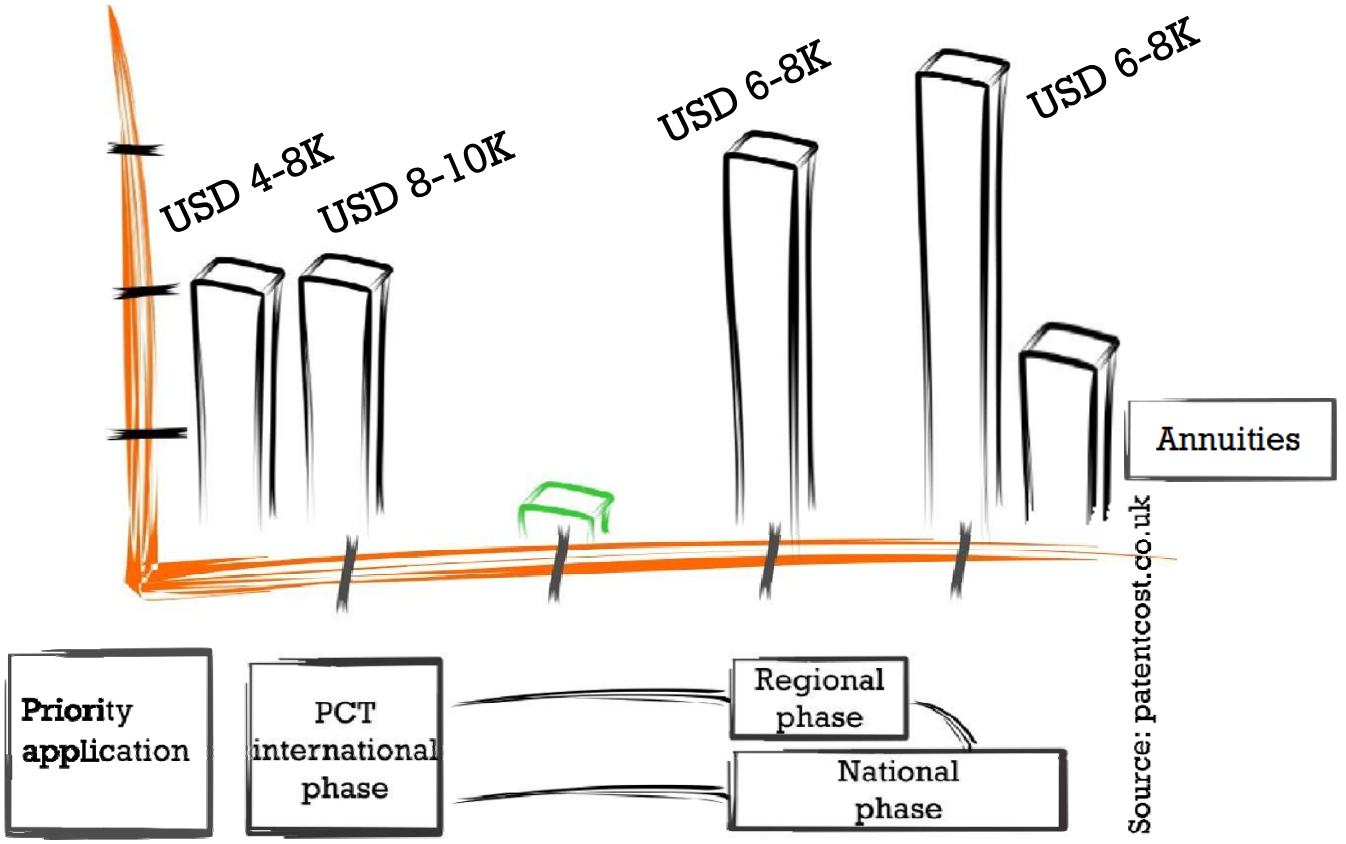
DRAFTING A PATENT APPLICATION

- Work with patent attorneys.
  - Inventor provides attorney with the description.

PATENT PROSECUTION

- It is a process with stages
- Can imply iterations (office actions)
- Staged costs:
  - Search
  - Drafting
  - Application
  - Office Actions
  - Annuities

PATENT PROSECUTION



INFRINGEMENT

- Test:
  - Does the competition product use **every** element of a **granted claim** in the original product patent ?
  - Two situations:
    - Fewer elements used: no infringement.
    - More elements used: infringement.

DISPUTE RESOLUTION

Primary objective:

Strive to prevent or resolve disputes through private negotiations, that is, without going to court (costs in general higher than rewards).

USING PATENTS

- Active use
  - Product actually features technical elements described in the claims of a patent.
  - Right to prevent others from exploiting the same technology/ features.
- Defensive use
  - No product commercialized with features contained in patent.
  - Observe the market. When product appears containing cleamed features, oppose to commercialization.

Academic Technology Transfer
Industry
Industry

TAKE AWAY QUESTION

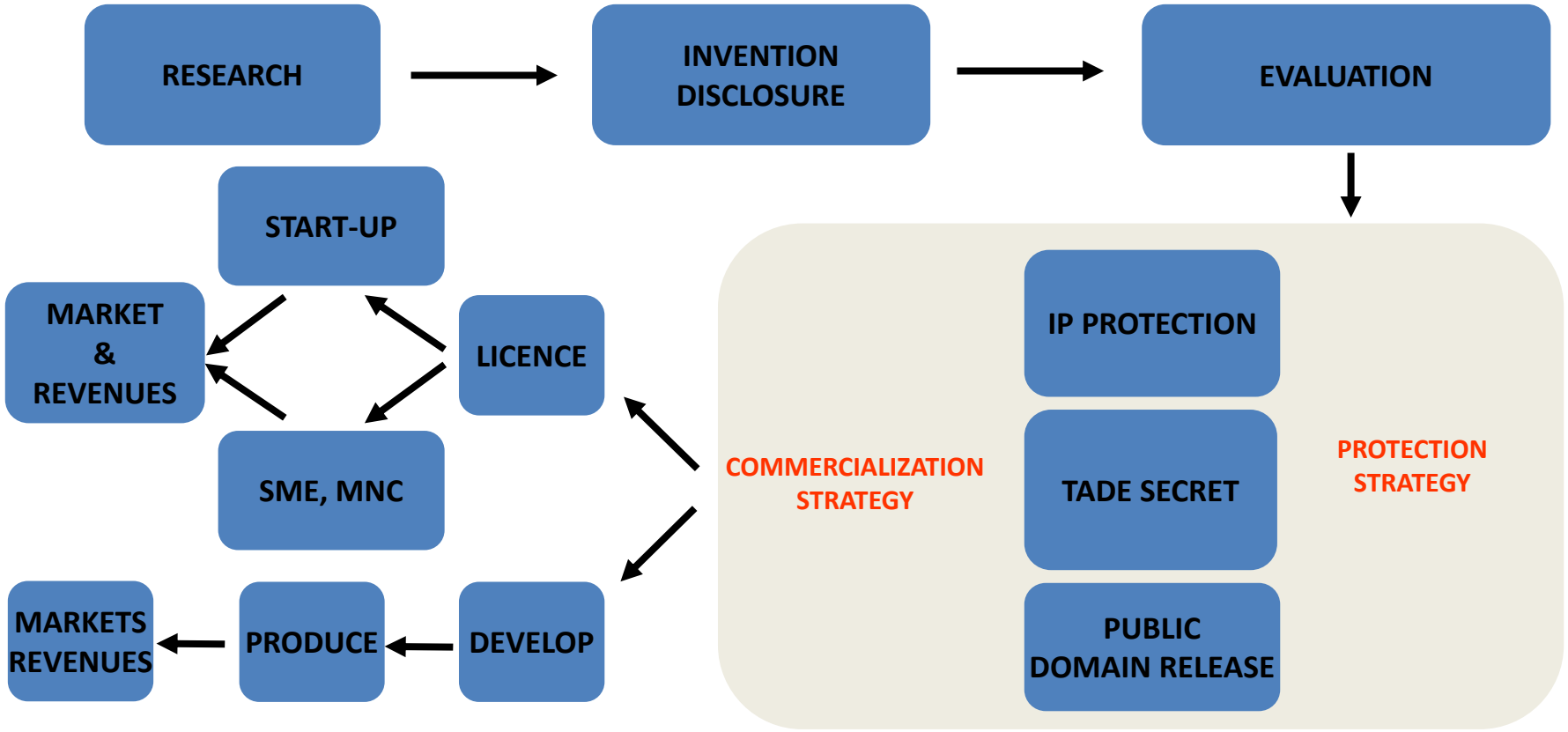
What is the key period of time to make decisions regarding the geographic extensions of patent rights ?

THANK YOU

FOR YOUR ATTENTION

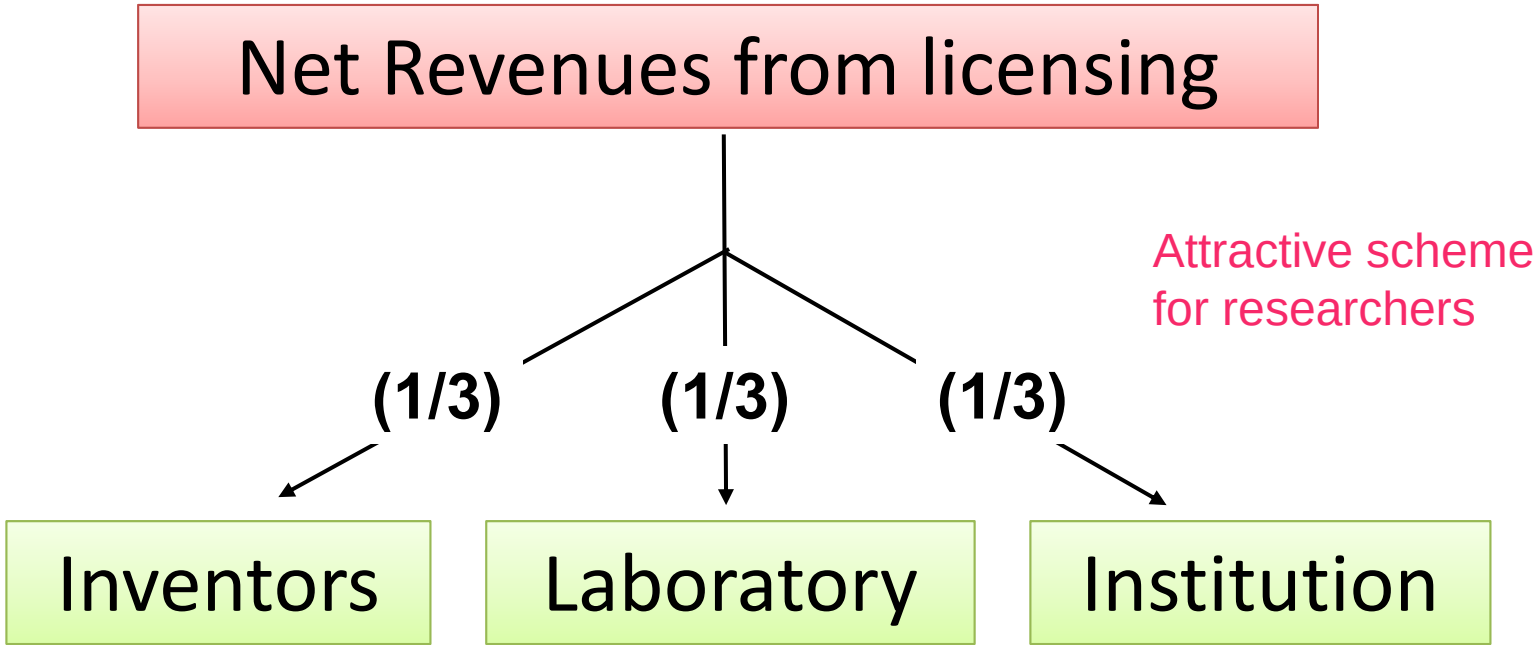
ADDITIONAL SLIDES

INTELLECTUAL PROPERTY VALUE CHAIN



REVENUE DISTRIBUTION IN ACADEMIC SETUP

Quite often similar schemes are used:



Attractive scheme for researchers