Thirty-Seventh Session of the Standing Committee on the Law of Patents (SCP/37)

Industry-Academia Technology Transfer in the Health and Green Technology Sectors

Prof. Dr. Fazilet Vardar

Coordinator for Research Partnerships and Innovation,Izmir University of Economics, Izmir, Türkiye;
Vice-President of Executive Committee, USIMP;
Board Member, Alliance of Technology Transfer Professionals - ATTP

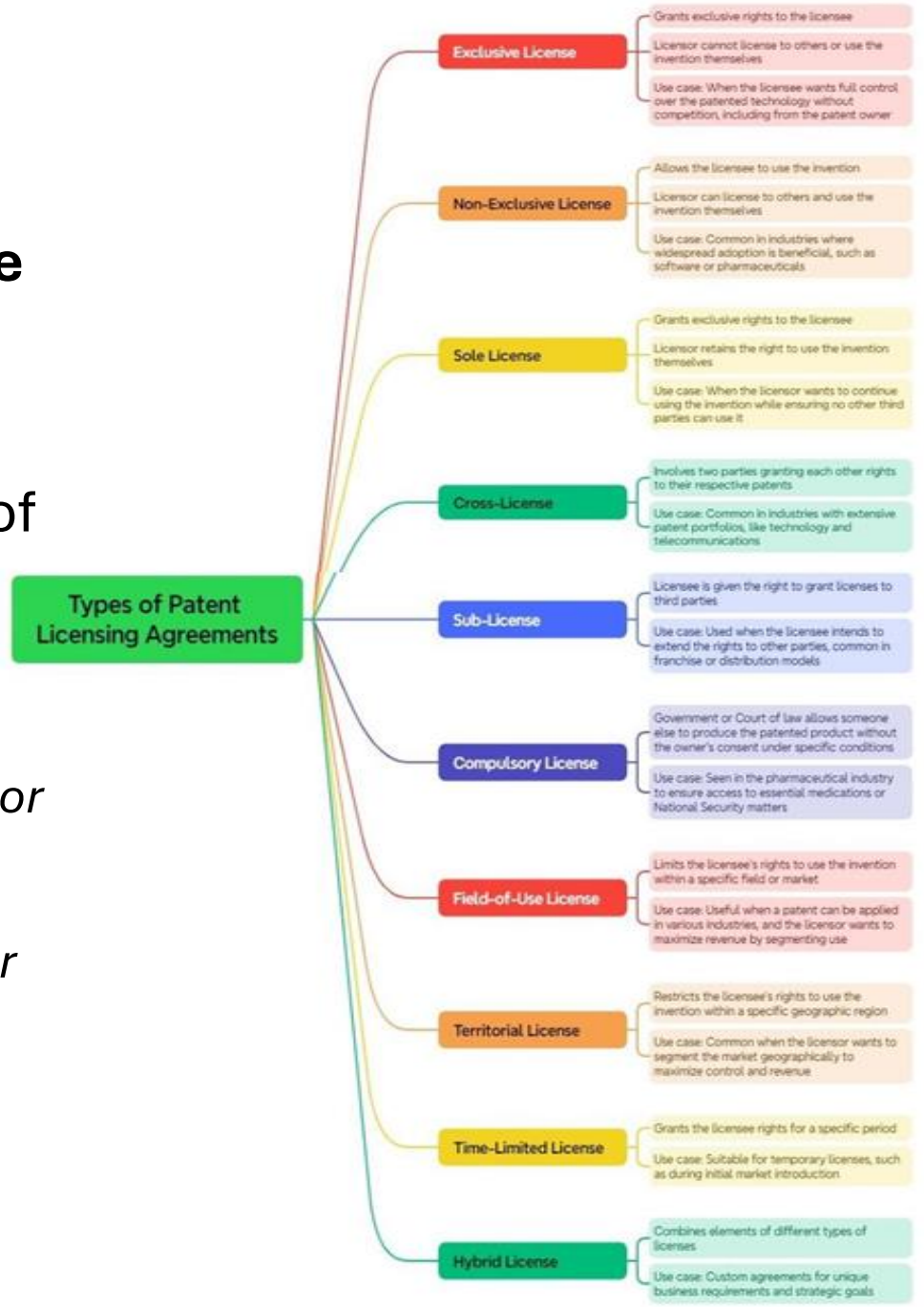
WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

Main Points

- Defining Remuneration schemes
- Balancing the dilemnas
- Specifics of BioTech & CleanTech sectors
- Comparison of current remuneration agreements
- Selecting optimal remuneration models
- Take away messages

What is Renumeration ?

- The contractual framework that **defines how value is shared** between the knowledge creator and the commercializing entity.
- The remuneration scheme **an essential element** of the licensing or collaboration contract
- It is intertwined with:
  - ✓ **Licensing model**, -*exclusive vs non-exclusive, field-or territory-limited, sub-licensing, etc*
  - ✓ **IP strategy & Stage of Patent Life –** *early stage or crossborder,*
  - ✓ **Regulatory environment** – *risks & incentives especially in BioTech and GreenTech sectors*



The Parties - *with different perspectives*

- **Academia - knowledge creator**
- **Industry** *(Large Company, SME, Start-up)* **- commercializing entity**

Dilemnas –

- Balancing incentivising academics, securing benefits for the academic institution - **short term gain vs longterm strategic goals,**
- Difficulty in valuing **early-stage IP,**
- **Securing trust** leading to long-term partnerships with commercial entities,
- Maneuvering around **limitations of local legislative** frameworks,
- Restrictions imposed by **specifics of sectors** (Biotech and green tech sectors),

The mediator - typically the university TTO.

BioTech and GreenTech sectors

Stand out from traditional industries due to their deep **integration of science, sustainability, and innovation.**

Startups and SMEs *(which are often the most agile)* are usually the vehicles for commercializing these disruptive innovations.

Challenges

- **Valuation of the IP**
  - ✓ at a very early stage of development
  - ✓ high technical and market uncertainty
  - ✓ asymmetry of information – University vs industry
- **Negotiation** - not a battle to be won, but as a step in co-creating a shared roadmap for successful commercialization
- **Choosing the right model** - risk-sharing approach

Core Remuneration Models

Upfront (lump-sum) payment	**A one-time payment paid at the time of licensing or contract signing.**
Milestone payments	**Payments scheduled at defined technical/clinical/ market milestones** *(e.g. regulatory approval, scale-up, market launch).*
Royalties / % of sales or usage	**The licensor receives a fixed or tiered % of net sales / usage of products / services related to the licensed technology.**
Equity / shareholding	**The licensor takes equity /shares in the licensee as part of the compensation- no cash** *(often in a spin-off)*
Hybrid / mixed models	**A combination of the above** *(e.g. modest upfront + milestone + royalty or equity component)*

Core Remuneration Models

Upfront (lump-sum) payment

ADVANTAGES
- Provides immediate cash to licensor,
- Transfers some risk to licensee;
- Simple to administer.

RISKS
- Possible future losses for licensor if product commercialization is weak
- Overestimates value of risk, under-compensating the licensor.

BEST SUITABLE
when the technology is relatively mature, or the licensor needs predictable short-term funds

Milestone payments

ADVANTAGES
- Helps align incentives;
- Mitigates the risk of paying too early;
- Allows licensee to "earn" payments.

RISKS
- Need careful definition of milestones,
- Dispute risk over whether a milestone is met,
- Monitoring costs.

BEST SUITABLE
in high-uncertainty fields when the success is uncertain and (biotech, medtech) where value is revealed over stages.

Core Remuneration Models

Royalties / % of sales or usage

ADVANTAGES
- Preserves upside if the product is successful;
- Continuous income stream;
- Aligns long-term interest.

RISKS
- Royalty tracking and audits cause administrative load;
- Risk of low transparency, double counting;
- Depends on product success.

BEST SUITABLE
for mature technology domains with foreseeable markets.

Equity / shareholding

ADVANTAGES
- Useful when cash resources are constrained;
- Aligns long-term incentives;
- Potential upside in high growth situations.

RISKS
- Liquidity risk, dilution risk,
- Valuation challenges,
- Governance issues, conflicts of interest.

BEST SUITABLE
for start-up or early-stage ventures with high risk and growth potential.

Core Remuneration Models

Hybrid / mixed models

ADVANTAGES
- Balances risk and reward for both parties;
- More flexible;
- More tailored.

RISKS
- Complexity in negotiation and enforcement;
- Potential for misalignment if components conflict.

1. A modest upfront license issue fee.
2. Full reimbursement of past and future patent costs.
3. A series of development and regulatory milestone payments.
4. A single-digit running royalty on Net Sales.
5. Minimum annual royalties beginning a few years after signing.
6. A clause for sharing in sublicensing revenues.

BEST SUITABLE

And very common in practice, especially in multi-stage development fields like biotech or green tech.

Remuneration in BioTech & Green Tech[1]		
	BioTech	**GreenTech**
IP focus	Strong focus on patents - for molecules and methods, often university or lab-based	Mix of patents from academia and industries
Primary Risk Factor	High technical and regulatory risk (e.g., clinical trial failure).	High market and policy risk (e.g., changes in subsidies, carbon price).
Development Timeline	Very long (10-15+ years).	Variable, but often shorter than therapeutics (3-7 years).
Market Driver	Unmet medical need; patient outcomes; reimbursement coverage.	Cost competitiveness; regulatory compliance; government incentives.
Role of Government	Regulator (e.g., FDA, EMA) setting high barriers to entry.	Market creator (e.g., through subsidies, mandates, carbon pricing).
Typical IP Portfolio	Often centered on a few key composition-of-matter patents.	Can be a mix of process patents, device patents, and software.
Dominant Remuneration Focus	Back-end loaded: Development milestones and royalties.	Flexible: Royalties, equity, and structures adaptable to policy changes.

Award-winning example from Türkiye

Europäisches Patentamt
European Patent Office
Office européen des brevets

Payments for clinical trials & dossiers
and
royalty fee from income

EPO TECHNOLOGY TRANSFER CASE STUDIES | DERMIS PHARMA

Healing wounds

"We always think that it is all about the development of new technologies. No, it is all about converting these new technologies into solutions touching people's lives. And technology transfer is one of the best ways for early-stage university technology to do so."

Professor Fazilet Vardar Sukan
TTO director at the time and Professor at Ege University

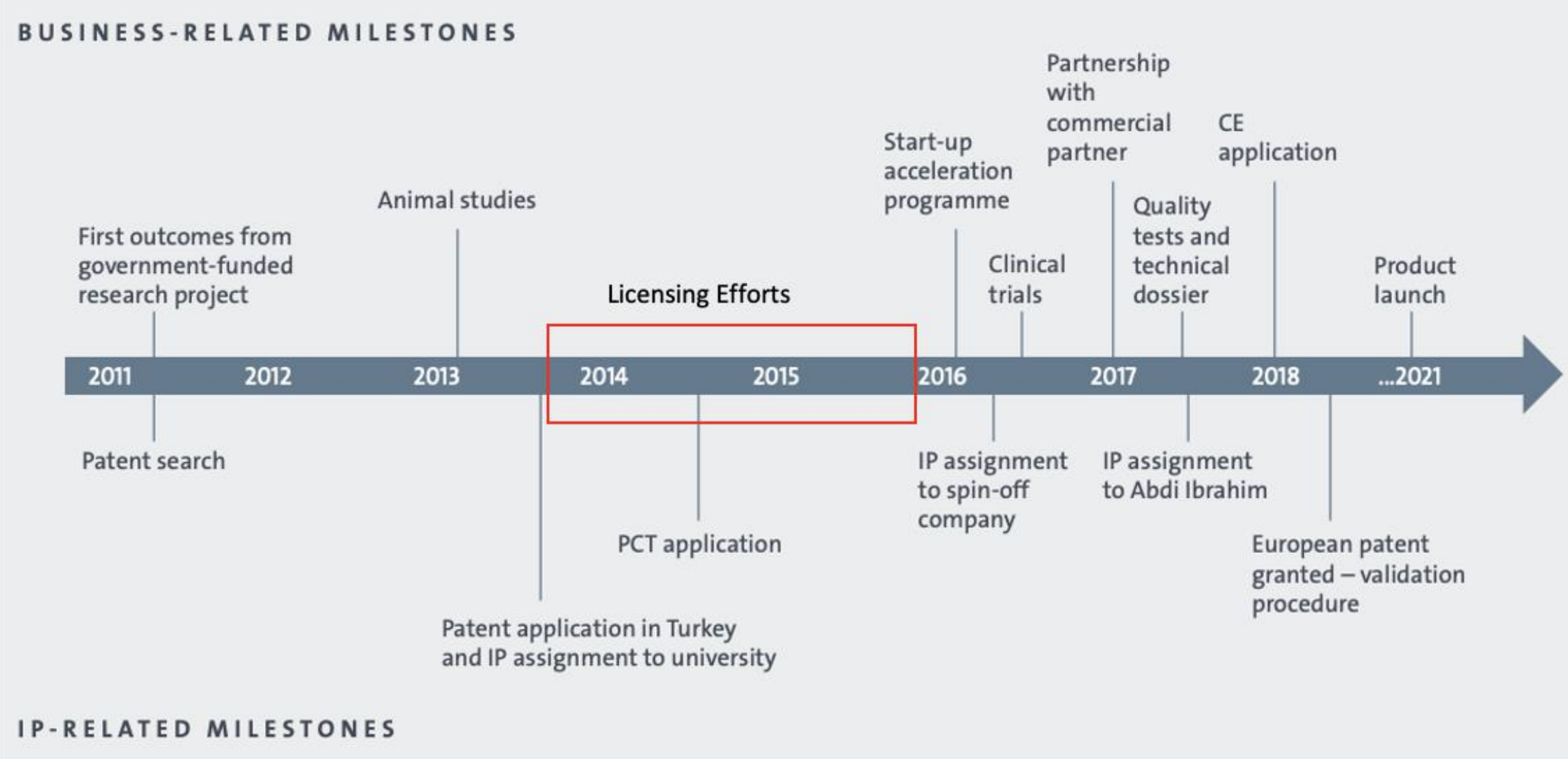
"Technology evaluation or assessment are key elements in the technology transfer process in order to select the most valuable technologies to focus the efforts put into commercialisation."

Mustafa Çakır
Patent attorney and commercialisation manager at the time at EBİLTEM TTO

Scan and ccess the case study

Access the case study here: **bit.ly/EPO-tech-transfer-case-studies**

Award-winning example from Turkey



Takeaways: Award-winning example from Turkey

TAKEAWAY

UNIVERSITY INNOVATION ECOSYSTEM

A well-defined IP policy, qualified commercialisation experts, the support of university administration and a widespread network are critical success factors for IP-based spin-off companies.

TAKEAWAY

TECHNOLOGY TRANSFER MODELS

Spin-off and corporate partnership models are attractive approaches which can be widely implemented by technology transfer offices.

TAKEAWAY

START-UP CREATION

Having strong business orientation is a great benefit for academic spin-out formation.

TAKEAWAY

FUNDING PROTECTION

Patent cost funding can be an important factor for technology transfer in the pharmaceutical industry. It regularly takes more than 30 months until a sustainable commercialisation deal is closed.

TAKEAWAY

IP EXPERTISE

Involving a global IP and licensing network can provide deeper insights and novel pathways for better IP strategy and IP management facilitating commercialisation.

Final take-aways.

1. **Combining renumeration models to customize for different sector/requirements—** *no one scheme is optimal in all settings*.
2. **Linking remuneration to risk and value revelation —** *early stages favor milestone/equity; later stages favor royalties*.
3. **Clear contractual drafting —** *objective milestones, audit rights, adjustment clauses*.
4. **Accounting for regulatory and institutional constraints in BioTech & GreenTech -** *approval risk, grants, policy incentives*
5. **Allowing for transparency in ex post adjustment rights-** *especially under asymmetric information*.

An appropriately selected remuneration scheme should provide a financial return while fostering, the partnerships necessary for technology dissemination and societal impact.

WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

Thank you

WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION