



EPO decision G2/21: what does it mean, and why does it matter?

Mr Matthew Smith

October 2023

Mewburn in numbers

- Over **330** strong - we're made up of scientists and engineers, as well as trade mark and legal specialists and business management experts.
- We have **5** growing offices in the UK and Europe.
- We've seen a **32%** growth in the last three years.
- Almost **50%** of our **49** technical trainees are women (national average of women graduating in STEM subjects in 2019 according to UCAS was 26%).
- Some of the brightest and best minds in the business work at our firm. Nearly **60%** of our partners have PhDs.
- We are '**Top Tier**' in Legal 500 and MIP IP Stars, '**Band 1**' in Chambers & Partners UK, '**Gold Ranked**' in IAM Patent 1000 and '**Recommended**' in WTR.
- We work in more than **70** specialist technical areas for over **3600** active clients.
- We have over **40,000** active cases and more than **800** dispute resolution cases ongoing.
- We work with **7** out of the **Top 10** Universities in the UK as well as more than **1600** Start-ups and SMEs.
- More than a third of our clients have worked with us for over **20** years.
- Our oppositions success rate is enviable. Only **7.4%** of patents we have opposed in the last 15 years have been maintained as granted, compared with an EPO average of 24.6%. We're even more effective if the case goes to appeal, our maintained as granted rate is **2.7%** at appeal compared to an EPO average of 11.9%.*
- Our clients scored us **9/10** for outstanding service delivery & overall satisfaction**

*Source: Statistics provided by IpQuants AG

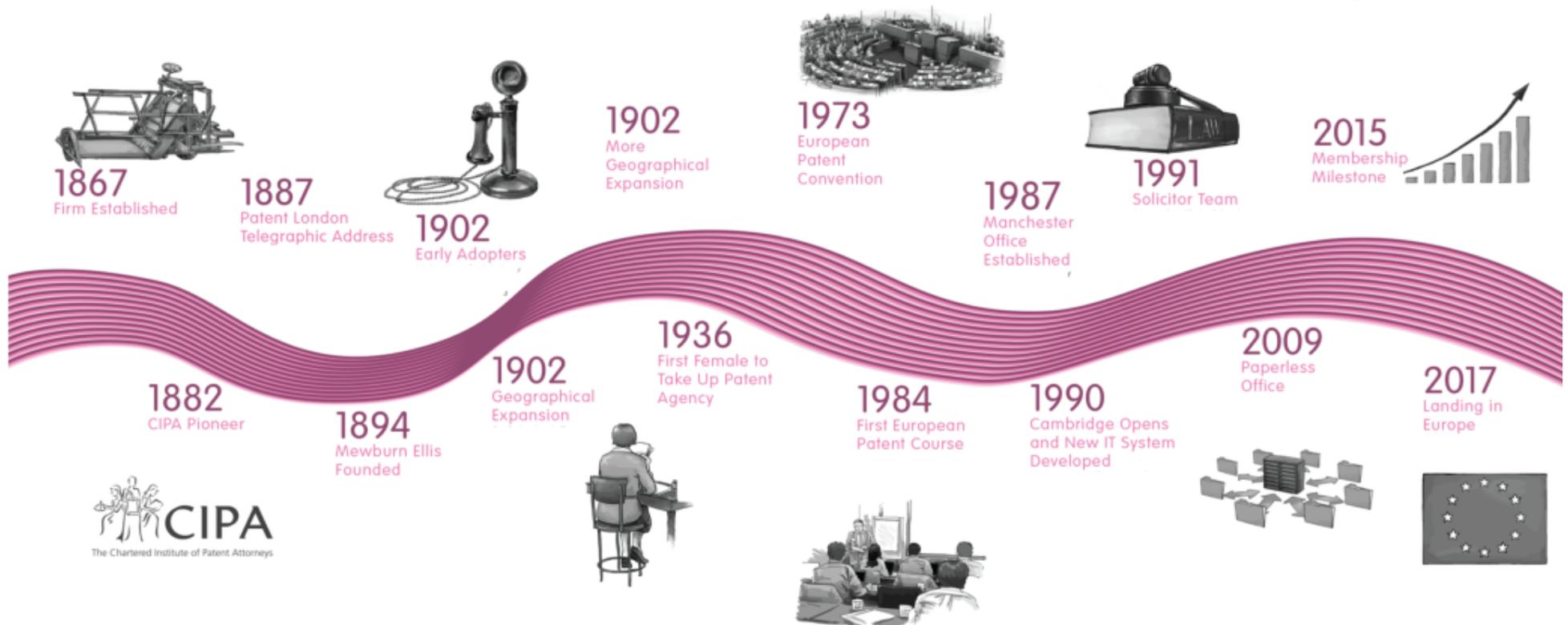
**Source: Acritas independent survey 2021

Founded on a passion for science & technology



We can trace our history back to 1867, when the talented and enthusiastic John Clayton Mewburn founded an IP office in London aged just 27 years old. He knew an opportunity when he saw one. The Industrial Revolution was still in full swing, with technological and scientific innovation at its height. There were more people looking to protect their inventions and ideas and it was easier and cheaper to do so than ever before.

In the 1890's he joined forces with George Beloe Ellis – a solicitor who shared his passion for new inventions and industrial property. Together the two men set about fulfilling their desire to protect the technologies they loved. Additional offices were established in Bristol in the 1920s, in Manchester in the 1980s and in Cambridge in 1990. Our first office in mainland Europe was opened in 2017, in Munich, Germany.



1867
Firm Established



1887
Patent London
Telegraphic Address



1902
Early Adopters

1902
More
Geographical
Expansion



1973
European
Patent
Convention

1987
Manchester
Office
Established



1991
Solicitor Team

2015
Membership
Milestone



1882
CIPA Pioneer



1894
Mewburn Ellis
Founded

1902
Geographical
Expansion



1936
First Female to
Take Up Patent
Agency

1984
First European
Patent Course



1990
Cambridge Opens
and New IT System
Developed

2009
Paperless
Office



2017
Landing in
Europe



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- In the spirit of openness and information sharing we have decided to keep them openly available to all.
- These are so good our competitors use them as reference – we know because they've told us!

ACCELERATED PROSECUTION

Our pages 'UK Patents - The Basics' and 'European Patents - The Basics' set out in detail the various procedural steps involved in obtaining UK and...

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Type (lump sum or instalments) and amount of compensation are determined by an agreement between the employer and employee. The calculation of a...

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Often you may wish to tell other people about your invention, for example if you are trying to license or...

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When a trade mark contains or consists of a logo, it is likely that there is copyright in the trade mark. If so, it is important that the trade mark...

DEFERRED PATENT EXAMINATION SYSTEM

Several Patent Offices operate a deferred patent examination system under which patent applications remain dormant until the applicant takes steps...

DEFERRED PATENT EXAMINATION SYSTEM - GERMANY

The German Patent Office operates a deferred patent examination system under which patent applications remain dormant until the applicant takes steps...

DESIGNATION OF THE EU VIA THE MADRID PROTOCOL

The European Union is a member of the Madrid Protocol and so the European Union can be designated in an International Registration so as to seek...

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For European patent applications filed since 2009, all available EPC member states are designated by payment of one designation fee.

The EPO has a...

DIRECT EUROPEAN PATENT APPLICATIONS: EARLY STAGE PROCEDURE AND PAYING SEARCH FEES

[Download flow chart - EP Early Stage Procedure & Paying Search Fees - Decision chart for action after issuance of a partial search report on a direct...](#)

DISCLOSURE OF SEARCH RESULTS

From 1st July 2004 the UK Intellectual Property Office has been requesting the results of official searches produced by other patent offices to be...

DOMAIN NAMES

The importance of trade marks is being increasingly highlighted by the rapid growth in use of the Internet. This page explains the process and some...

DUTY OF DISCLOSURE

Failure to disclose relevant information to the United States Patent and Trademark Office (USPTO) can result in a patent becoming invalid and...

Mr Matthew Smith

- MSc in Chemistry from Oxford University
- Qualified 2010; partner 2015
- Co-lead of our Advanced Materials technology group
- Speak some Japanese; now visit Japan for 1-2 weeks most years
- Involved with JIPA, JPAA and others since joining the profession
- Practice: Chemistry specialising in inorganic, industrial and materials chemistry, polymers and small molecule pharmaceuticals
- Major clients: Japanese polymer and materials companies, pharmaceutical companies, and local advanced materials SMEs
- Significant experience of EPO opposition and appeal work



Background and recap – G2/21

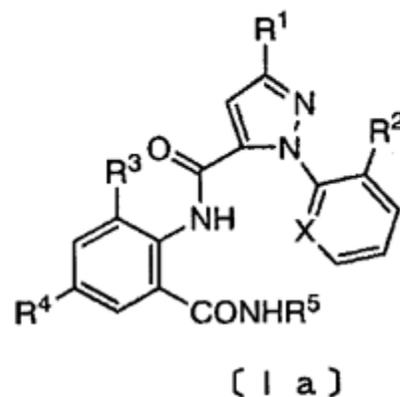
- A recent case at the Enlarged Board of Appeal of the EPO considered the topic of ‘plausibility’.
- This was a threshold test for considering if a technical effect can be used in the consideration of inventive step or sufficiency.
 - Inventive step: where the technical effect is not recited in the claims (= a usual case).
 - Sufficiency: where the technical effect is recited in the claims (= for example a second medical use claim which mentions treating a particular disease).

- If the effect was considered plausible: experimental data filed during prosecution can be used to prove that effect is achieved.
 - Therefore, it can be used to support an inventive step or to prove sufficiency.
- However, if the effect was not considered plausible: experimental data filed during prosecution cannot be used to prove that effect is achieved.
 - Accordingly, the effect is disregarded. This might mean an inventive step argument fails, or a claimed invention is found to be insufficiently disclosed.

- But there was a problem! Different Boards of Appeal at the EPO applied different thresholds to decide ‘plausibility’.
- So it was unclear how a given case must be decided.
- This led to questions being referred to the Enlarged Board of Appeal.
- They were answered in the decision G2/21.
- Today we will consider recent decisions which apply those answers in practice.

Recap (and useful example)

- Claim 1 relates to a **combination** of two ingredients in an insecticide:
 - Thiamethoxam
 - Compound(s) of Formula Ia:



wherein R¹ is a halogen atom or a C1-6 haloalkyl group, R² is a halogen atom, R³ and R⁵ each are a C1-6 alkyl group, R⁴ is a hydrogen or halogen atom, and X is N, or a salt thereof.

- In the Opposition case, the Opponent Syngenta submitted experimental reports D9 and D10 to allege that “synergistic activity” was **not** provided by all the claimed combinations.
- In particular D9 and D10 were used to argue that certain concentrations of the compounds **did not work synergistically** (or indeed at all) against certain insect species.
- If the evidence in D9 and D10 is accepted, the objective technical problem must be **reformulated**.

- D21 and D22 were filed to counter that argument and to demonstrate (further) synergy.
 - **Accepted** by the Opposition Division.
- In particular D21 permitted **further reformulation** of the technical problem.
 - Synergistic activity against a specific species.
- In the Appeal, D23 was filed to yet further try to show that synergy is not always present – to force a **different reformulation** of the objective technical problem.

EP 2 484 209 – summary of data

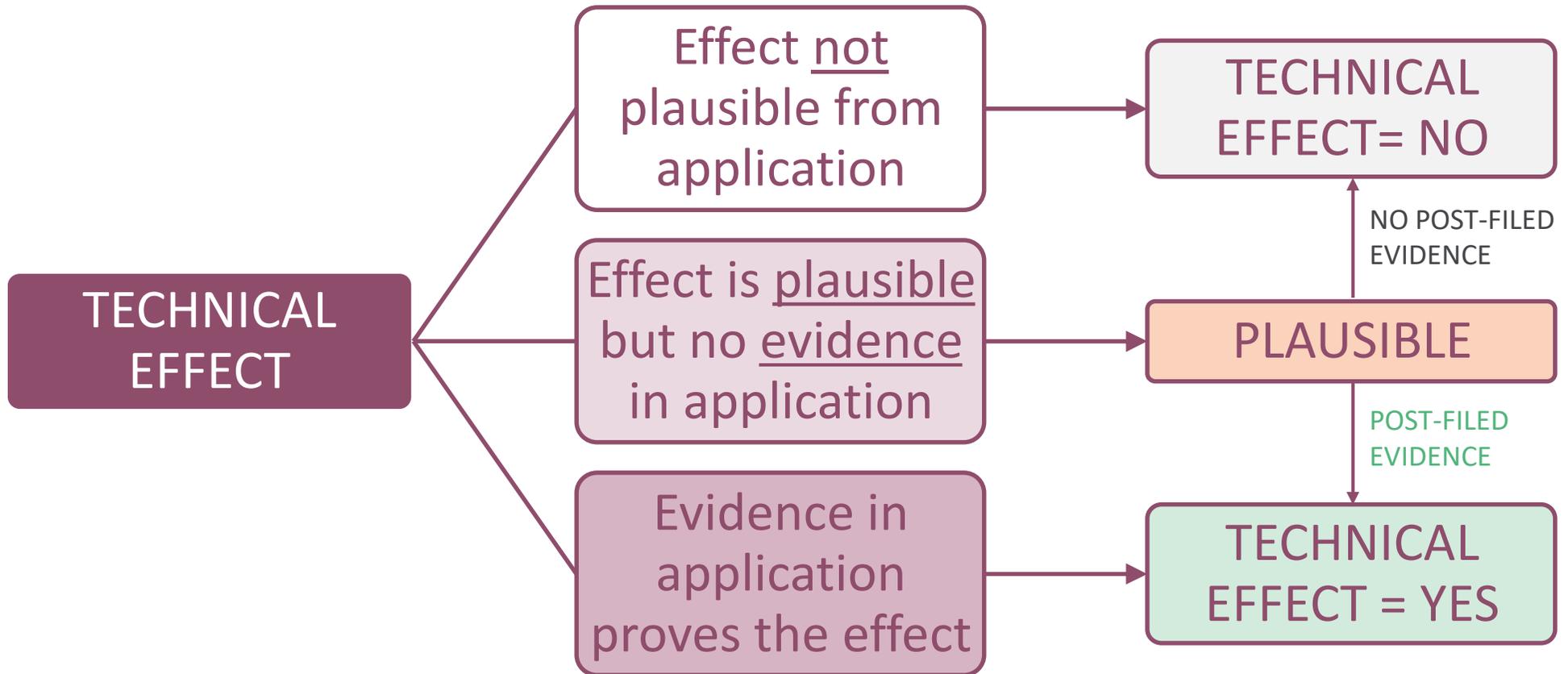
	Patent itself	D9	D10	D23	D21	D22
Species tested against	<i>Spodoptera litura</i> , <i>Plutella xylostella</i>	Too many to list!	<i>Myzus persicae</i>	<i>Spodoptera littoralis</i> , <i>Plutella xylostella</i>	<i>Spodoptera litura</i> , <i>Plutella xylostella</i> , <i>Chilo suppressalis</i>	<i>Myzus persicae</i> , <i>Bemisia tabaci</i> , <i>Plutella xylostella</i> , <i>Frankliniella occidentalis</i> , <i>Pieris rapae</i> , <i>Spodoptera litura</i> , <i>Trichoplusia ni</i>
Alleged objective technical problem?	“insecticide with synergistic activity”	“alternative insecticide”	N/A ²	“alternative insecticide”	“insecticide with synergistic activity against <i>Chilo suppressalis</i> ” ¹	N/A ²

¹ There is no evidence to challenge this synergy, unlike the other two species.

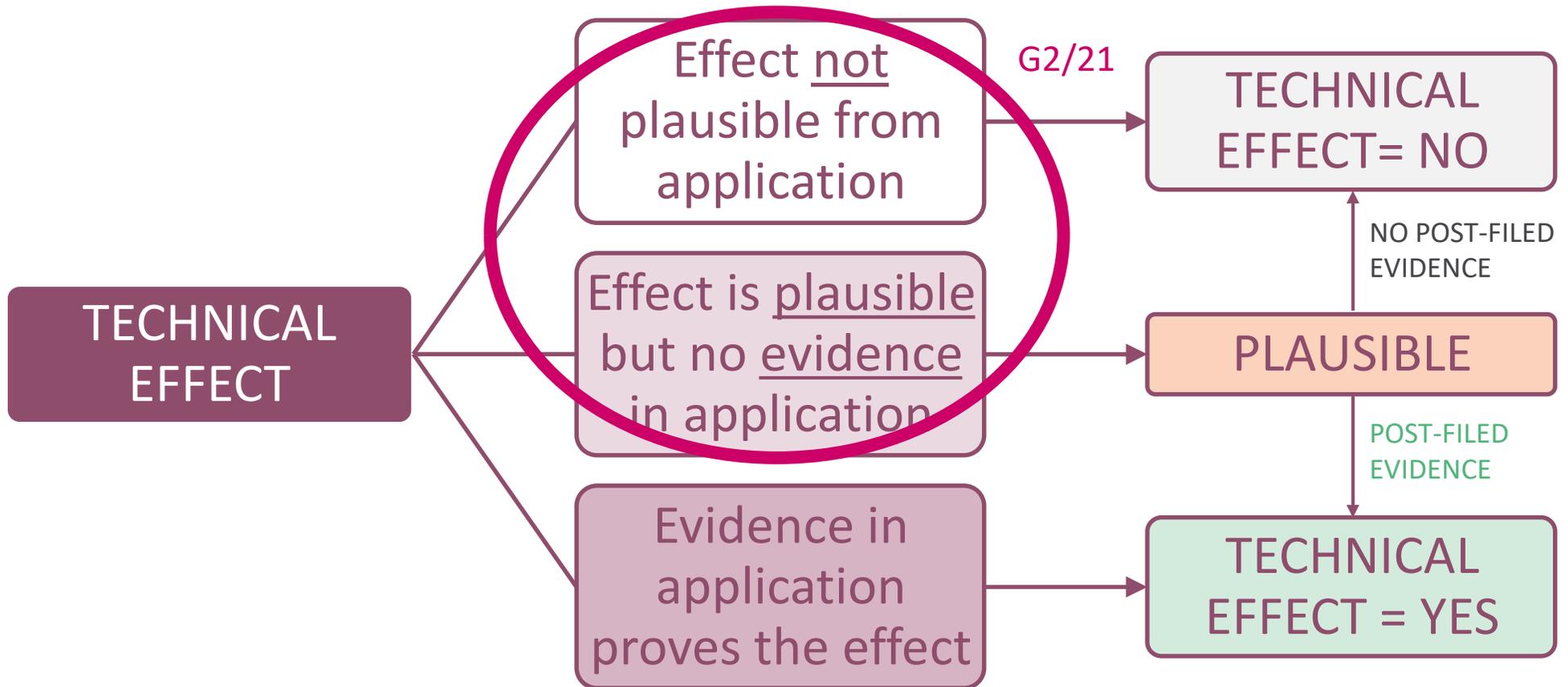
² These documents did not add anything particular to the arguments based on previous documents.

- From the previous slide we can see the Board of Appeal concluded:
- **If D21 can be used:** technical problem relates to *Chilo suppressalis*.
- **If D21 cannot be used:** technical problem is an “alternative” (i.e. no synergy).
- ...But how do we know if D21 can be used?
- We need to know if the effect is ‘plausible’.

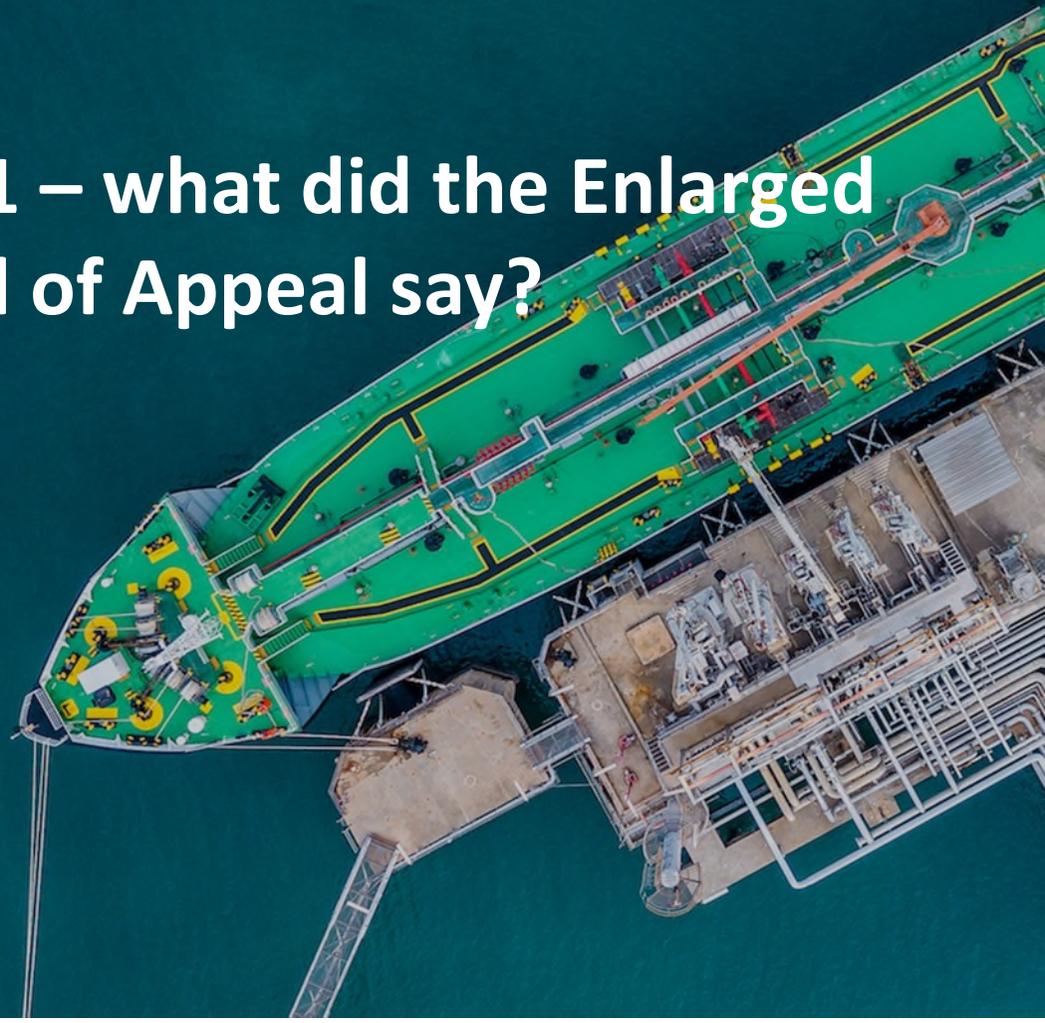
Is a technical effect “plausible”?



Is a technical effect “plausible”?



G2/21 – what did the Enlarged Board of Appeal say?



- Unfortunately there was no clear or easy ‘test’ set out by the EPO.
- Instead, a variety of quite vague statements.
- I will not talk about them in detail – that is enough for a separate seminar!
- The next slides will cover some of the more important statements.

- “A patent applicant or proprietor **may rely** upon a **technical effect** for inventive step if the skilled person, having the **common general knowledge** in mind, and based on the **application as originally filed**, would **derive** said effect as **being encompassed** by the **technical teaching** and **embodied** by the **same originally disclosed invention**.”
- We need to look at a lot of factors:
 - What the skilled person knows from the common general knowledge and the application as filed.
 - What effects can be derived from the application as filed.
 - What effects are ‘encompassed’ by the technical teaching.
 - What effects are ‘embodied by the same originally disclosed invention’.

G2/21 – the decision

- There was limited guidance about any of this!
- One part of the decision suggested that we must avoid changing “the nature of the claimed invention”.
 - With no discussion of how to tell what the “nature” is...
- Another part suggested that we must understand “the technical teaching of the claimed invention”.
 - With no discussion of how to tell what is ‘encompassed’ by that, or ‘embodies’ that invention...

G2/21 – the decision

- Therefore we look to see how the Boards of Appeal are applying this decision to new cases.
- Their practice will help us understand the EPO's position.
- So far there are about 10 such new cases.
- We will consider a few of them in detail.
- Then we will look at practical actions you can take when drafting for or prosecuting at the EPO.

Decisions using G2/21

Today's cases

- We will look at four cases today.
- T 8731/21 – where post-filed data were considered, and supported an inventive step.
- T 1445/21 – where post-filed data were considered, but did not support an inventive step.
- T 258/21 – where post-filed data were not considered.
- T 116/18 – the original referring case.

- This case related to a new combination therapy (known medicines (A) and (B)) for treating horses.
- The patentee argued that the combination had a synergistic effect, to give improved insulin sensitivity as compared to what might be expected.
- The application itself did not mention synergy, only improvement.
- It said “the combination therapy according to the present invention advantageously leads to improved insulin sensitivity where monotherapy...is insufficient”.

- Board of Appeal accepted that the synergistic effect could be relied on, even though it was not mentioned in the application.
 - Improved insulin selectivity was mentioned.
 - The post-filed data merely quantified how large the ‘improvement’ effect was.
- Hence, the synergistic effect was “encompassed by the technical teaching” and “derivable” from the original application.
- Thus the post-filed data were considered.
 - It was decided that they proved the effect; hence, inventive step was present.

- This case related to a cleaning composition (a laundry detergent, for example) which included encapsulated perfumes.
- The patentee argued that their compositions had improved stability and olfactive (smell) performance.
- The application itself did not mention olfactive (smell) performance.
- It said “the invention relates...*[to products]*...comprising encapsulated perfumes which are perfectly stable therein”.
 - It also mentions the problem of leakage of the perfumes from the capsules.

- Board of Appeal found that “olfactive (smell) performance” was directly related to the ‘stability’ of the perfumes within the capsules.
- The leakage of perfume, measured in the patent application, is linked to olfactive (smell) performance.
 - More leakage = lower stability = lower olfactive performance.
 - Therefore the problem of improving olfactive performance is “encompassed” by the technical teaching of the original invention.
- Thus the post-filed data were considered.
 - Unfortunately for the patentee, though, the data didn’t show evidence of the effect and so there was no inventive step!

- This case related to a medicament for treating patients who have suffered an ischaemic stroke.
 - Managing hypertension in such patients to reduce damage from the stroke.
 - The medicament was known for use with *haemorrhagic* stroke patients; *ischaemic* stroke context was new.
- The patentee alleged an effect of “improved activity and reduced side effects” as compared to other known agents for such treatment.
- This was not mentioned in the application as filed.
 - No comparison with previous agents was made.
 - Only mentioned the desire for “an optimal balance of efficacy, precision...and safety in stroke patients”.

- Board of Appeal did not accept that the effect “improved activity and reduced side effects” was related to the originally described problem and invention.
 - As no *comparison* to previous agents was originally mentioned, it was concluded that no *improvement* as compared to such agents could be relied upon.
 - The original application was also not specific to ischaemic stroke; therefore, the treatment context also could not help the patentee.
 - Post-filed data were therefore not taken into account (although the Board noted that they were not good enough anyway...)
- The objective technical problem was therefore framed as “provision of a medicament that can be used in a method of reducing ischemic stroke damage in a subject with an ischemic stroke...which provides good balance of efficacy, precision...and safety.”
 - The solution was found to lack inventive step, for more ‘normal’ reasons.

- This is the ‘original’ case we discussed at the start of this seminar.
- Synergistic effect of insecticides against *Chilo suppressalis*.
- No written decision from the EPO yet (hopefully by the end of the year), but we know what happened in the oral proceedings.
- Board of Appeal found that the specific effect against *Chilo suppressalis* can be used by the patentee.

- We do not know the Board of Appeal's exact reasoning.
- Probably relates to some combination of things:
 - The 'nature of the invention' relates to insecticides, in particular combinations which have synergy.
 - There are experimental data in the application which seek to demonstrate that synergy (although not against *Chilo suppressalis*).
 - There are experimental data against *Chilo suppressalis* with insecticides other than those claimed, and it is listed as an insect of interest.

What can we learn?

What the decisions teach us

- There is at least some flexibility to refer to effects which do not appear in the application as filed.
- Some causal/logical link to the effects which are so mentioned may be helpful (T 1445/21).
- An ‘improvement’ mentioned in the application as filed allows a ‘synergy’ to be relied on (T 873/21).
- ‘Improvement’ cannot be relied on if the application makes no comparison to the prior art (T 258/21).

How we can change our practice

- When writing a patent application:
 - Mention a number of different technical effects of the invention, even if there is weak (or indeed no) evidence of them yet; potentially in terms of ‘improvement’ of the prior art.
 - For example, based on inventors’ scientific speculation.
 - Include all helpful data, unless there are other considerations (for example confidentiality).
 - Where there is an overarching technical effect/insight of the inventors, mention that as well as specific effects or insights within that general concept.
 - That is, mention effects at different levels of specificity.
- When in prosecution:
 - Liberal approach to what can be “derived” from the application as filed.
 - Broad interpretation of “encompassed” by the technical teaching.
 - Find the most general statements in the application to support what “the invention” and its “nature” originally were.

Conclusions

- The case law in this area continues to evolve.
- It will not be settled for many years.
- For now, we can write applications according to our best predictions of what we will ‘need’ in the future.
- Involve your European associates early in the drafting process to avoid problems later.

An aerial photograph of a park area with a river, green spaces, and a circular building with a grid pattern. The image is used as a background for the top half of the slide.

Thank you for listening

If you have any questions please contact me

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The forward-looking
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October 2023

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