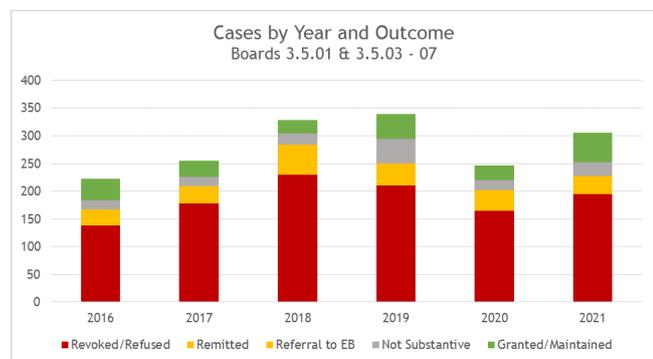


Review of EPO Software Decisions in 2021

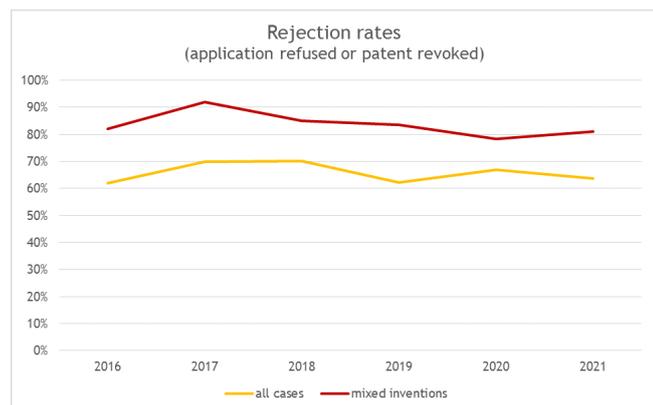
In 2021, reporting of the case law of the EPO Boards of Appeal in the field of IT & computer-implemented inventions has been dominated by two topics: the Enlarged Board’s decision relating to simulation and the rejection of two applications for inventions created by the artificial intelligence “DABUS” for failure to designate a human inventor. The simulation decision could well become the most important decision in this field as it endorses and summarises 20 years of case law since the well-known Comvik decision. The DABUS decisions follow the line taken in the UK and US that a human inventor must be named in any patent application and may be the start of a long debate on AI inventorship but are unlikely to have an immediate impact on day to day practice for most innovative companies. We discuss below these cases and other cases of interest published in 2021.

Statistics

2021 was a relatively normal year for decisions of the 3.5 Technical Boards (excluding 3.5.02) statistically speaking. There was an increase in the number of decisions issued compared to 2020 - approaching pre-covid levels - with many hearings being held by video conference.



Rejection rates remained high, with only 36% of appeal decisions resulting in a patent being granted or maintained. Granted and maintained rates for cases where some feature or problem is considered non-technical remain even lower at 19%.



Enlarged Board Decision G1/19 - Simulation

G 0001/19 (Pedestrian simulation) of 10.3.2021 is undoubtedly the most important decision of the year in this field. It was discussed thoroughly in our briefing [here](#) and its significance is shown by it being cited twenty times in the relatively short period since its publication.

The Enlarged Board’s decision has been widely summarised as confirming the 2002 Comvik decision (T641/00) and the numerous decisions which develop the Comvik principle that non-technical features cannot contribute to inventive step. The answers given to the specific questions addressed to the Enlarged Board in relation to simulations can be summarised as follows:

- it is not necessary to claim a link to physical reality in order to have a technical effect going beyond the implementation of the simulation on a computer
- on the other hand, it is not sufficient for patentability that the simulation is based, in whole or in part, on technical principles underlying the simulated system or process
- claiming the computer-implemented simulation as part of a design process, in particular for verifying a design, does not make any difference.

According to EPO procedure, the Enlarged Board does not directly decide any issues in the case that refers questions to it. Rather the referring Board must apply the answers given by the Enlarged Board to the facts of the case at hand. At the time of writing, the referring Technical Board 3.5.07 has applied the answers provided by the Enlarged Board to the original case and rejected the appeal, so the underlying application remains refused, but the written decision is not available.

The appellant in T 1453/17 (Real time broker quality indication/NYSE) sought to argue that G 1/19 took a “generally favourable approach” to computer-implemented inventions but Board 3.5.01 rejected that, saying the Enlarged Board “rather confirmed the long standing Comvik approach and left the assessment of what is and what is not technical to the technical Boards deciding on the individual cases.”

The Enlarged Board in G 1/19 suggested that technical character of a computer-implemented process could be sought in the inputs to the process, the outputs of it and any specific adaptations of the way the process is performed to specific computing hardware. However, where the technical use of the output is relied on, non-technical uses must be excluded so that the whole breadth of the claim is technical. This requirement was considered in depth in T 0199/16 of 14.10.2021.

The invention at issue in that case related to a vehicle telematics system which automatically calculated a “usage fee”, e.g. a

charge for leasing a vehicle based on measured variables, e.g. operating hours. The appellant argued that the calculated fee could also be used to correct the measured variables and that the usage fee did not have “an exclusively commercial or administrative character” likening it to a variable that might be used to control the speed of a vehicle or to devices that measure consumption e.g. electricity meters. These arguments were not convincing as the usage fee undoubtedly had business uses and any technical character certainly did not extend to the whole scope of the claim. This case shows that peripheral technical uses of the outputs of a method will not outweigh any non-technical uses.

Lack of a technical use for the output of a simulation also led to refusal in related cases [T 2594/17](#) and [T 2607/17](#) of 20.5.2021. The inventions here related to computer-simulated testing of virtual weldments but the testing was only used for training purposes and the final determination was of a pass/fail condition for a test candidate. This was not considered to be a technical use.

On the other hand, the suggestion in G 1/19 that an “indirect measurement” would probably be technical was cited to useful effect in [T 1422/19 \(Content item visibility/GOOGLE\)](#) of 19.5.2021. This case used statistical methods to infer the size of the viewport in a browser window in circumstances where it could not be determined directly for security reasons. Although no use of this measurement was specified in the claims, the Board held that it was enough to provide an “estimate of a technically meaningful parameter”. Overruling an objection that the invention “circumvented” the problem rather than overcoming it, the Board commented “that finding a way to circumvent a technical problem may well form the basis for a patentable invention” (emphasis added).

The Board also allowed a reference to the “Firefox browser” in a dependent claim, leaving open the “question whether such a limitation implies additional technical features relevant to achieving a specific technical effect over the whole scope of the claim” because it was not necessary to address the inventive step of that claim.

A direct connection between a simulation and reality was recognised in [T 1892/17](#) of 27.8.2021 where simulations of electrical power consumption by individual users was used to control actual apportioning of the electric power to the individual consumers. Therefore, features that “when considered in isolation, only involve data processing and simulation aspects” were nevertheless taken into account in the assessment of inventive step. The Board did not agree with the opponent’s argument that G 1/19 means “that any feature in a claim related to a simulation, if considered in isolation, is in principle not to be taken into account in the assessment of inventive step”.

Legal Board of Appeal Decisions J 8/20 and J 9/20 - AI inventor

The other most talked about decisions of the EPO relating to software were the Legal Board decisions that a machine learning algorithm cannot be named as an inventor in a European Patent application. These decisions and related cases around the world have been covered in news items [here](#). For all the debate stirred by Dr Thaler and his legal team, these decisions need not have much practical impact on day to day practice. Where a machine learning algorithm or other AI system has been used to support an invention process it is probably sufficient to name as inventors the

(human) individuals who have:

- posed the problem to be solved
- determined the structure of the ML algorithm to be used
- selected the training data and/or training process to be applied
- validated the outputs of the ML algorithm.

Notional Business Person

Previous annual reviews have documented the career of the Notional Business Person since their debut in [T 1463/11 \(Universal merchant platform / CardinalCommerce\)](#) of 29.11.2016. In 2021, the NBP appeared in five cases, one of which resulted in the grant of a patent.

[T 1746/16](#) of 4.3.2021 was heard by Board 3.4.03, which does not often consider business related inventions. This case, like many others, concerned payment systems involving mobile phones and allegedly provided the advantage that “only one request has to be transmitted via the mobile phone network without connection to the Internet or a similar network. This makes the method independent from any wired structure and insensitive to network interruptions during the transaction or between two transaction transmissions. These interruptions would lead to an insecure situation.” This advantage is achieved by the customer’s mobile phone decoding a two-dimensional image code (QR code) comprising the transaction data which is then sent in an encrypted SMS message with the authorisation PIN.

The Technical Board held that several features of the invention were details of the software implementation that “contribute to realising a transaction method which effectively unloads the network while maintaining a high security standard and high safety level for the transaction. Therefore, these features contribute to the technical effect of the invention, though some of them may be considered as non-technical features”. Although cited by the applicant, the Notional Business Person was not referred to in the Board’s reasons.

In the other four cases, the Notional Business Person did not support an inventive step:

- [T 0755/18](#) held that “the test of whether program features would have been formulated by a software expert [in contrast to a business person] is not sufficient to conclude whether those features are technical” since the work of such an expert includes non-technical computer-programming tasks.
- [T 1632/18](#) held that [T 1463/11](#)’s finding that load reduction is a technical advantage depended on the factual circumstance of that case and was not a precedent
- [T 0589/17](#) the board distinguished from [T 1463/11](#) commenting that “the business person cannot require the use of a server which is a technical feature, he can specify that a certain task be performed by a central administrative entity. In the present case, the use of a central entity for handling the bonus scheme is an organisational matter related to the franchising business model.”
- [T 2522/16](#) commented that the “mere wish to have access to certain data at certain locations of such a system ... was something the notional business person might indicate to the technically skilled person”.

These cases do not materially add to the case law around the

Notional Business Person. However, they do make the point that it cannot be assumed that a feature is technical merely because it belongs in the domain of the computer programmer; the computer programmer may be tasked with both technical and non-technical features.

Business Methods

Last year only two cases involving business methods resulted in a granted patent, with one being remitted for further examination; all related to payment systems.

In [T 2040/14 \(Providing prepaid gift cards to devices with or without NFC capability\)](#) of 12.2.2021 the Board recognised that sending a prepaid card requested by one user for the benefit of another user, is a business aspect as is recognising that providing prepaid soft card personalisation data to mobile phones that can use it and providing authorisation codes to ones that cannot. Therefore, the technical problem to be solved by the invention is to implement this “dual provisioning process” on a user’s mobile phone. Based on the prior art chosen as starting point, the invention involved modifications of server functions or choice of communication channels which the Board considered to be non-obvious technical features.

Similarly, the Auxiliary Request that was allowed in [T 1854/12 \(Échange de valeurs I/IDEMIA\)](#) of 6.5.2021 introduced features specifying the use of two different keys on for the encryption of two types of information to provide advanced security. The Board considered that this request was inventive because the person skilled in the art had no reason to modify the encryption scheme of the prior art, which was directed to a different purpose.

Security improvements were also key in [T 1408/18 \(Online TAN-Verfahren/STAR FINANZ\)](#) of 16.11.2021. The Board did not agree with the Examining Division’s split of features between technical and non-technical, considering that a choice of communication channel and the use of a “TAN” (effectively a one-time password) were “outside the professional competence” of a business person and must be taken into account for inventive step. Therefore the Board did not agree with the Examining Division’s reasons for rejecting the claims of the main request but nevertheless considered them to be obvious given “the general technological trend” to convert websites to applications on a smartphone. The applicant had filed five auxiliary requests which “add further measures to implement the security concept” of the invention. The Board concluded these had not been searched properly, given the Examining Division’s incorrect view of what was non-technical, and so the invention was remitted for further prosecution.

On the other hand, 15 cases involving the allegedly technical implementation of a business method were rejected. Some notable points are:

- [T 0994/18 \(Secure mobile payment/ADVANCED NEW TECHNOLOGIES\)](#) of 20.7.2021 held that “the decision to include or exclude the payment amount in the information which the merchant provides to the customer is not based on technical considerations. In particular, this is not related in any way to the effects mentioned by the appellant, i.e. reduced data transmission, cryptography or improved security.
- [T 1141/17 \(Automatic selection of a marketing script/FRASER\)](#) of 15.4.2021 automating the selection of a customised marketing script based on two known identifiers was obvious. The applicant argued that the combination of the

two selected identifiers enabled a very quick look-up in a database but the Board viewed the low response time as a mere effect of the automation, there being nothing to suggest “a low response time beyond that achieved by merely using a computer.”

- A process to divide a price into parts for different sources of funding was considered in [T 2238/17 \(PROCÉDÉ ET SYSTÈMES DE PAIEMENT/Rossi, Jean-Yves\)](#) of 23.11.2021 to “provide advantages, such as savings in payment cards, a reduction in financial transactions or a more efficient organization of financial services, which are certainly practical, but which are of a purely commercial nature.” Also, a “reduction in subsequent management costs ... does not constitute a technical effect either.”
- [T 0907/14 \(Tracking delivery items/US POSTAL SERVICE\)](#) of 13.7.2021 held that data collection “to measure handler performance, a common business activity” is not technical.
- [The Board in T 1453/17 \(Real time broker quality indication/NYSE\)](#) of 15.6.2021 “agrees with the examining division that assessing the execution quality of an order or a plurality of orders and providing this information to the trader is not technical. The requirement that the information be provided in real time...merely amounts to the abstract wish to have the information available as quickly as possible.” An alleged prejudice in the art of financial transaction systems of not increasing latency did not overcome “a strong tendency to automate processes that had previously been performed manually”, especially given that “claim 1 does not include any positive technical features which actually overcome the problem of latency.”
- In [T 2448/16](#) of 25.6.2021 the “Board does not see any difference in the profile of a business user and a technical user. ... Since the wording of claim 1 is rather broad, the claimed definition of a “business user” and a “technical user” fails to make a distinction.
- [T 2486/16](#) of 12.1.2021 observes that “[i]mproving user privacy and improving data security are two different problems.” Improving privacy is a business aim and lead in an obvious fashion to the idea of a geographical risk rating as a substitute for detailed location data. Since no security advantages of this had been disclosed in the application as originally filed, arguments relating to security were given little weight.
- [T 0977/17 \(Storing electronic receipts/OTTO GROUP SOLUTION PROVIDER\)](#) of 17.6.2021 presents an interesting contrast; that “using statistical methods to predict future purchases based on previous ones is a business research activity excluded per se from patentability” but “improving database completeness” is technical. However, the claimed invention, which involved deriving information from scanning paper certificates, was considered obvious and alleged synergistic effects not justified in the application as filed.
- According to [T 2534/17 \(Payment module/RAKUTEN\)](#) of 10.5.2021, use of a “utility value” for converting between currencies or points arises purely from non-technical business-related considerations and any effect such as use of less memory for storing exchange rates which flows directly from that choice is “merely a bonus effect, which does not count towards inventive step.”
- A method of dealing with missing fonts was the subject of [T 1865/17 \(Generating two-dimensional visual objects/GMC\)](#)

SOFTWARE) of 4.12.2020. The Board observed that “the reasons for not supporting a font in the terminal may be licensing issues, i.e. non-technical commercial reasons.” Thus the Board did not accept arguments that the skilled person had no motivation to search for a solution.

At first glance, an invention relating to the application of machine learning to maintenance of trains would seem to be adequately technical. However, in **T 1635/19 (Rolling-stock maintenance/SIEMENS MOBILITY)** of 9.7.2021 the Board saw the invention as an obvious implementation of an abstract scheme. They summarised the distinguishing features of the invention as “a new rule for the identification of events/incidents from diagnostic information ... by applying supervised learning to the diagnostic information while using the information indicating which of the generated events/incidents have been validated and which have been discarded by human experts as ground truth information.” This was considered to be an abstract scheme which is non-technical “as such” and could not contribute to inventive step.

The Board was not swayed by arguments that the invention provided better results because “the quality of the new rule in terms of its effect on the accuracy of the identified events fully depends on the quality of the ground truth information. The origin of this information is not specified in the claim, and the description confirms that it may be the result of cognitive processing by a human operator dealing with the events. Any improvement in the quality of the event identification therefore is not a technical effect achieved by the features of the claim. In addition, the accuracy of the identified events is not a technical parameter, since it is judged by the human operator.”

This decision emphasises that arguments based on improved results are only successful where it can be clearly shown that the improvements derive from claim features and that machine learning techniques cannot be seen as inherently technical.

Other Non-technical Issues

It is rare that the features are disregarded because they are aesthetic but in **T 1338/19 (Touch-Pad für ein Kraftfahrzeug / BMW)** of 2.9.2021 a “bulge” in a touch screen for a car was considered non-technical ‘due to the not very specific formulation “curvature” - which also includes an overall arched surface’.

Control of an avatar in a game by a seated player was the invention in **T 3033/18** of 2.8.2021. The novel features related “to rules about what actions are possible in both the real and virtual world.” The inventive step therefore turned on whether implementation of those rules was inventive bearing in mind that “inventive step cannot be found in the mere technical implementation of the above rules, but must reside in the particular manner of implementation.” In this case the Board considered that the implementation claimed was inevitable given the claimed rules and the physical restrictions imposed by the fact that the user is lying or sitting and the avatar moves.

In **T 0095/15 (Automatische Auswahl eines Antriebs/SEW-EURODRIVE)** of 11.3.2021 a claim to a “Procedure for determining and/or manufacturing a drive” was revoked as a mental act. Although manufacturing a drive would have been a technical method the language of the claim did not explicitly or implicitly require technical means to perform the “determining” option. A feature of the claim requiring “transmission” of data was held to cover oral communication between two people, not necessarily communication of data by technical means. It should have been

fairly straight forward to restore technicality by including a limitation to the use of a computer or deleting the “determining” option but the Board declined to admit auxiliary requests that it considered late filed. A request for a reference to the Enlarged Board was also rejected because it was not necessary to decide the case.

A claim using a mathematical formula was rejected in **T 1294/16 (Image data arrangement/OMRON)** of 10.3.2021 because the formula was “only a mathematical equivalent” of one in the prior art and an alleged improvement in speed could not be substantiated. An argument that the invention made life easier for the programmer was rejected on the basis that “this, in principle, cannot be considered to define an invention at all (T 1539/09, Catchword). Arguendo, even if that could be the case, the technical effect cannot be objectively assessed here, because on the one hand the programming language is not specified, and because on the other hand the answer is a matter of subjective preference: while writing code with only two loops may be more convenient, the indexes will no longer intuitively directly represent the standard RGB format, making code reading less convenient.”

Some other cases in which features or aims were considered non-technical include:

- **T 0692/17 (System zur Optimierung von Abhol- und/oder Lieferfahrten/Deutsche post)** of 28.9.2021: address data was supplemented by additional data to assist delivery but this was considered non-technical because the original data was not corrected or improved and the additional data was only subjectively “better”
- **T 1227/17 (E-mail read status indication/UNIFY)** of 19.11.2021: only the rule for automatically switching read/unread was new and “reflects an administrative choice or the user’s subjective preferences.”
- **T 0371/17 (Leistungsfähigkeit eines Straßenmautsystems/KAPSCH)** of 20.7.2021: measuring the performance of a road pricing system is not necessarily technical and might have economic motivation. Likewise not storing position data could be driven by privacy concerns or data protection law rather than a desire to save memory (see also T 2486/16 supra).
- **T 1328/19 (Detection of unauthorized network usage/MAXXIAN)** of 25.11.2021: whether or not two TV programmes can be watched together “is a mere administrative decision that may be taken based on the business model of the content provider.”
- **T 1066/18 (Bildqualität/BUNDESDRUCKEREI)** of 20.7.2021: assessing the “quality” of an image without a clear definition of “quality” could cover “aesthetic and subjective criteria” and so is not technical.
- **T 1313/17** of 9.11.2021: evaluation of the output of a machine is not technical without a direct link to changing the “settings of the machine” for technical purposes and not “educational or economic purposes”
- **T 1898/17 (Speech recognition/Vocollect)** of 5.10.2021 observed that “speech recognition per se is typically recognized as being technical” but the distinguishing features of the invention were based on “only non-technical considerations in the form of the selection of certain mathematical operations.”

- [T 2147/16](#) of 7.9.2021 held that “comparing digital text content by similarity preserving hashing and dynamic cluster rating may be considered an algorithm optimised for the computer hardware” (emphasis added), but “the present invention does not provide sufficient and specific disclosure, such as parameters, how the algorithm is optimised for the computer, nor is this reflected in the claim wording.”
- [T 2316/16](#) of 12.2.2021: “gathering, selecting and supplying information, which a pilot requires during a flight (manuals, handbooks for the aircraft, weather information, flight planning, navigation charts, aircraft operation, load, information about the destination airport, etc.)” is an administrative scheme
- [T 2522/16](#) of 25.3.2021: “A process for achieving consistency of manufacturing information across different locations does per se not solve a technical problem, but merely fulfills a business administration aim.”
- [T 0552/14 \(Queue message/TICKETMASTER\)](#) of 12.1.2021: “Although queues may have technical applications, the act of queuing per se is an administrative (or abstract mathematical) concept. Thus, it follows that improving such a non-technical activity, by allowing it to be performed more efficiently, is not a technical problem.
- [T 1472/14 \(Verwendung anthropometrischer Daten zur Produktherstellung\)](#) of 19.1.2021: “product optimization taking into account national or international anthropometric or sociodemographic population data” is “an abstract and administrative method which could be carried out independently of a computer system.”
- [T 1614/16](#) of 27.4.2021: “outputting an audio / video data transport stream in the form of an endless loop - as opposed to outputting it only once - is a decision driven by commercial considerations. ... This trade-off between the cost of programming and the variety for the viewer is a commercial, non-technical decision.”
- [T 0104/19 \(Protocol similarity/PLASTICELL\)](#) of 12.11.2021 related to rating experimental protocols. The Board held that “a better appreciation of relationships in a data set is an intellectual effect, which is not technical” and that “the use of the term “false positive” is merely metaphorical in the case at hand. It is not the case that a protocol which cannot lead to the desired outcome is erroneously labelled as a protocol which can lead to the desired outcome.” Overall “better ranking of effective protocols might assist scientists in prioritising their experiments and in allocating resources (time and money) for further study of certain protocols, but these are not technical matters. Resource allocation is primarily an organisational business problem and not a technical one. The fact that it is carried out in the context of cell culture experiments does not change this finding”
- [T 0554/19 \(Inactivity counter/APPLE\)](#) of 26.11.2021 resetting an inactivity timer in response to a certain amount of activity in a specified time “is merely an activity pattern that a user wishes to pursue in their daily life which they can define as they wish.” Also “walking or sitting were not technical tasks.”
- [T 0755/18 \(Semi-automatic answering/3M INNOVATIVE PROPERTIES\)](#) of 11.12.2020 held that “if neither the output of a learning-machine computer program nor the machine output’s accuracy contributes to a technical effect, an improvement of the machine achieved automatically through supervised learning for producing a more accurate output is not in itself a technical effect. In this case, the learning machine’s output is a billing code, which is non-technical administrative data. ... Therefore, improving the learning machine to generate more accurate billing codes or, equivalently, improving the accuracy of the billing codes generated by the system, is as such not a technical effect.
- [T 1971/18 \(Determining an analysis chronicle/NOKIA TECHNOLOGIES OY\)](#) of 8.3.2021: “the reduction of user distraction or disruption by selectively presenting information to the user has an effect on the cognitive burden since it avoids that the user is distracted from analysing cognitive data presented to him/her. Presentation of information also fulfils the cognitive interests or needs of the user. However, none of these is a technical purpose or is based on technical considerations.”
- [T 2263/18 \(Extraction method/FUJITSU\)](#) of 11.10.2021 comments generally that “the identification of types of scenes of a sports game is not a technical purpose” but perhaps this has to be taken together with the fact that the aim is to identify scenes of interest, e.g. where a point is scored. It could be technical to identify types of scene if this had a technical purpose, e.g. to adapt a compression algorithm.
- [T 2366/18 \(Notification feed across multiple client devices/DROPBOX\)](#) of 16.3.2021: several arguments for technicality of filtering notifications were advanced to no avail. The most interesting point was probably an attempt to liken hierarchical identifiers to functional data structures such as index data structures. This was “not convincing as index data structures, for example, may guide the computer to find the location of data to be retrieved in the memory and may be specifically adapted to technical access properties of the memory hardware. The hierarchical taxonomy in this case is not comparable with this kind of functional data structure.”
- [T 2825/19 \(Natural language to machine language translator/RAVENFLOW\)](#) of 19.3.2021: in an invention relating to translating natural language queries into a formal language such as SQL, both linguistic aspects and also aspects relating to the abstract formulation of algorithms are non-technical.
- [T 0189/19 \(Ranking semi-structured documents/MICROSOFT TECHNOLOGY LICENSING\)](#) of 10.3.2021: in a search result “the insight that [a webpage with] a greater number of positive reviews indicates a greater relevance to the user is not one that belongs to a technical field.” The invention also did not involve “a continued and guided human-machine interaction process” because “any human-machine interaction specified in the claim is already present in document D1.”

Technical Subject Matter

By way of contrast, some cases where debatable subject matter was held to be technical included:

- [T 1790/17 \(Redesigning product or process parameters/PROCTER & GAMBLE\)](#) of 18.3.2021: claim 1 of the main request was considered to amount to little more than the generic process of collecting customer feedback and amending products in response, which was considered non-technical. However, an auxiliary request limiting the articles to absorbent articles (nappies or diapers) and including a manufacturing step was considered sufficiently technical to be remitted for further examination, where it is meeting further objections

- The Board in [T 1182/16](#) of 14.4.2021 accepted a definition of the objective technical problem as “to improve the provision of content by a media device by interpreting the preferences of users more accurately” which perhaps seems inconsistent with other cases where user preferences have been considered subjective but here the invention was really about detecting the locations of users and not what their actual preferences were
- [T 0375/18 \(Authenticated home appliance management/LG\)](#) of 3.3.2021 recognised a technical effect of increasing security even though the driving motivation of the invention seemed to be to offer users flexibility to register home appliances for remote control at a time of their choosing
- [T 2131/17 \(Optimisation multi-objectif/MBDA France\)](#) of 7.6.2021 related to a system for defending an area from threats by deriving an optimised firing pattern for weapons. Rejected by the examining division as “abstract and non-technical in nature as it relates only remotely [sic!] to real-world objects”, some amendments to add a little more detail convinced the Board that the invention was technical, in particular because “the allocation of missiles is made on the basis of physical data, namely the positions of the threats and their kinematics, in order to deduce technical parameters, namely the allocation of missiles and the instants of firing.”
- [T 0306/19 \(Disambiguation scheme for reduced keyboard/BLACKBERRY\)](#) of 6.9.2021: improving “the selection of a diacritical or non-diacritical version of a letter in a disambiguation scheme for a reduced keyboard” was accepted as a technical problem. Claim features limiting the invention to a specific type of input device - the reduced keyboard - seem to be critical and give technical character even to a feature involving “detection of a verb of a certain class”
- [T 0505/18 \(Advertising-based mobile device navigation features/BLACKBERRY\)](#) of 12.11.2020 is consistent with earlier case law ([T 651/12](#)) that improving driver safety by reducing distraction (in this case by not displaying an advertisement when the vehicle is close to an intersection) is technical.

Methods of Medical Treatment

Although the field of digital therapeutics is growing, there are few cases that consider issues relating to both the separate exclusions of methods of medical treatment ([Art 53\(c\) EPC](#)¹) and of non-technical subject matter ([Art 52 EPC](#)). One such case is [T 0944/15 \(Monitoring patient position / Brainlab\)](#) of 3.11.2020. It would not normally be expected that a computer program would be excluded under [Art 53\(c\)](#) because the second leg of that provision expressly states that products for use in a method of medical treatment are not excluded and a computer program claim is usually considered a product claim. However, there is EPO case law that holds that a product can be excluded by [Art 53\(c\)](#) if it is actually defined by method steps ([T 1731/12](#) and [T 0775/97](#)). This is the case *even when no method of treatment step is specified* in the claim, if the treatment step is implicit. In [T 0944/15](#) the method steps specified in the program claim necessarily implied that a treatment was being performed at the same time and hence was excluded. As the Board put it: “the computer program of claim 1 ... is an invention only by virtue of the property that, when running, it implements a method of treatment excepted from patentability under Article 53(c) EPC. It is, for that reason, excluded from patentability.”

User Interfaces and Presentations of Information

The most commonly applied criterion for patentability of presentations of information is whether they credibly assist a user in performing a technical task by means of a continued and/or guided human-machine interaction process ([T 336/14](#) and [T 1802/13](#)). This was not the case in [T 0772/18 \(Erfassen einer Bewegungscharakteristik eines Fahrzeugs/TELEKOM\)](#) of 26.2.2021 where a “fuel consumption characteristic” was obtained but “the information displayed to the driver does not contain any specific instructions on how to control the vehicle, for example in order to optimize fuel consumption” hence there is no “guided process”.

Similarly, the claim in [T 2372/17 \(Multi-word autocorrection/APPLE\)](#) “does not detail any interaction between the user and the computer in relation to the auto-correction that is taking place, and there is nothing to suggest that the user is taking into account what is being displayed. It is therefore doubtful that there is any continued and/or guided... interaction.”

In the same field, [T 0200/19 \(Disambiguation of text with upper and lower case/BLACKBERRY\)](#) of 30.4.2021 holds that increasing efficiency of input, in particular by reducing the number of keystrokes required to get to a desired input, is a technical problem.

[T 0977/18 \(Filtering emails on mobile devices/BLACKBERRY\)](#) of 24.6.2021 discusses an equivalent of the “requirements” phase that was introduced by Comvik in relation to inventions implementing business methods and similar non-technical processes. In relation to UIs, the Board postulates ‘a conceptual phase in which the user interaction, i.e. the “look and feel” and the “behavior”, is defined.’ This phase is not exactly equivalent to the Comvik requirements phase because it might (though not in this case) include “technical considerations, for example in the field of ergonomics”. Non-technical requirements developed during the conceptual phase (and not contributing to inventive step) included a “trade-off between perceived efficiency and error-tolerance” and other subjective aspects such as the duration of a delay before triggering action. Although normally reduced user input could support patentability, this case the Board found that it “depends on subjective user preferences and cannot be regarded as [an] objectively credible technical effect.”

It has previously been held that aesthetic aspects of UI design nor “good or efficient use of the display area” are not technical. Aspects that fell under this categorisation included:

- [T 0773/19 \(Eingabeverfahren für Sonderzeichen auf einem Touchscreen\)](#) of 26.8.2021 - a special character box displayed partially overlapping the main keyboard
- [T 1762/18 \(Polyhedron components 1/SAMSUNG\)](#), [T 1677/18 \(Polyhedron components 2/SAMSUNG\)](#) and [T 1681/18 \(Polyhedron components 3/SAMSUNG\)](#) of 3.5.2021 - various aspects of a UI involving polyhedral shapes displaying menus and sub-menus where alleged to “reduce clutter”

Some cases that were allowed include:

- [T 2004/17 \(Zooming on touch screen/APPLE\)](#) of 10.12.2020 - a “zoom bounce-back” feature provides useful feedback to the user that the maximum zoom level for display of a document has been reached
- [T 2738/18 \(Touch screen display adjacent to a physical keyboard\)](#) of 26.3.2021 - “system-level user interface

elements” are displayed on a touch screen adjacent a physical keyboard to give easier access to system-level APIs and reduce the number of user actions necessary to access them

- [T 2916/18 \(GUI reconfiguration mode/APPLE\)](#) of 20.4.2021 - a persistent “interface reconfiguration mode” allows for repositioning of two icons with fewer user interactions and no risk of an inadvertent action.

A frequently cited case in the field of UIs is [T 115/85](#) whose headnote states “Giving visual indications automatically about conditions prevailing in an apparatus or system is basically a technical problem”. In [T 2084/18 \(Suspicious behaviour/AIC\)](#) of 18.6.2021 the Board cautions against citing this case at that level of generality “[g]iven the body of subsequent case law which discusses under which conditions or for which internal states of a system or apparatus this statement would be valid (see inter alia [T 833/91](#), point 3.7 of the reasons; [T 336/14](#), point 1.2.4 of the reasons, second paragraph)”. In [T 2084/18](#) the appellant had sought to extend [T 115/85](#) to its converse: that deciding not to give an indication of the internal state of an apparatus is technical. The Board considered that the relevant feature, only displaying part of the field of view of a video camera, should be “judged on its own merits” which were not technical since it was intended to deceive a user into thinking they were unobserved.

Inventive Step

[T 2251/13 \(Projection surface with built-in track pad/ORDAMO\)](#) of 13.4.2021 concerns a system for restaurants in which a menu is projected onto a surface with a built in touch pad. This was inventive because the skilled person, a specialist in computer systems, “would not necessarily have the[] routine design skills [of a specialist in mechanics] and would not have considered modifying a table top structure in order to provide an alternative input interface without a further hint.” This was also a relatively rare example of a granted case where the problem was formulated as “how to provide an alternative”. The Board commented that this “does not automatically mean that the solution is obvious.”

The relevance of general knowledge was key in [T 1370/15](#) of 25.1.2021, specifically general knowledge introduced by the Board of its own motion and without evidence. The Board concluded that it was entitled to introduce new facts in the form of general knowledge evidenced by its own expertise provided that the relevant parties had an opportunity to comment. It was not enough for a party objecting to the introduction of the alleged general knowledge to merely deny its correction; the party must provide “arguments why the facts the board relies on are held to be wrong”.

That commercial considerations can’t support inventive step was reiterated in [T 1584/17](#) of 8.12.2021 where the Board commented “that the decision as to whether to implement such a functionality in a [set-top box] is of a commercial nature, i.e. it is a weighing of the advantage of providing an additional service versus the additional cost of its implementation.”

Many cases in this field base a finding of obviousness on the general trend to automation. In [T 0045/19 \(Same parameters values across all programs/JOHNSON&JOHNSON\)](#) of 21.10.2021 an alleged preference in a specific field - surgeons appreciated more control over every parameter in surgical procedures - did not outweigh the general trend.

[T 1639/17 \(Darstellung einer Fahrzeugumgebung/CONTI\)](#) of 6.10.2021 holds that an expert will stay up-to-date in a related field as well as their own - in this case the fields of mobile robotics and vehicle assistance systems - especially where the relevant feature comes from the related field.

Clarity

Clarity issues are often very case specific and not of general interest but last year there were a few cases that are worth comment even if not of general applicability. The whole decision [T 0195/20 \(User access/GOOGLE\)](#) of 20.9.2021 related to a grammatical issue, with extensive evidence from experts in that field being submitted. Specifically, the opposition division had revoked the patent for added matter because claim 1 had been amended to refer to “providing secured access by the user” whereas the original claim referred to “providing secured access to the user”. The opposition division considered that this change of preposition meant the user was doing the providing rather than the accessing. Ultimately, the Board decided that the more coherent reading of the amended claim was the same as the original so there was no added matter and the case was remitted for consideration of the other grounds of opposition. Almost two years delay and a seventeen page decision resulting from the change of two letters.

The independent claim at issue in [T 2257/18 \(Optimizing website visitor actions/SITESPECT\)](#) of 16.4.2021 was held to lack clarity for not fulfilling the promise of the claim’s preamble. Claim 1 was directed to “A method of testing variations in a target server’s website content and measuring the impact that those content variations have ...” but no features in the claim actually provided any “measuring”. The appellant argued that the claim provided data that could be used to determine impact but the Board considered the claim unclear as the skilled reader could not determine what other features might be implied by the “measuring”. This case demonstrates the need for consistency between the preamble of a claim and the detailed features.

The invention of [T 0831/15 \(Dispositif de protection/INGENICO\)](#) of 1.3.2021 aimed to detect unauthorised opening of a payment terminal in part by using a capacitor having “a unique capacitance”. This was considered unclear because the uniqueness of the capacitance can only be judged by comparison with other devices.

Although the ground of revocation in [T 1127/16 \(Aircraft communication method/BOEING\)](#) of 18.2.2021 was added matter, the key point was clarity of the granted claim which depended in part on whether an absent comma should be read into it. Paraphrased, the relevant feature read “evaluating a preference ... , wherein the preference comprises a preference list identifying a selection ... and identifying the highest in preference ...” there being a comma before “wherein” but not before “and”. The claim was therefore interpreted as meaning that the preference list identified the highest in preference as well as the selection, rather than that “identifying” was a separate step performed after “evaluating”. The former interpretation had no basis in the application as originally filed but was still technically credible so the person skilled in the art would not have needed to consult the description and to speculate other possible readings of the claim would be too high a burden on the reader. The patent therefore fell in the “inescapable trap” since to cure the added matter would broaden the scope of protection.

Footnotes

1. European patents shall not be granted in respect of:...(c)
methods for treatment of the human or animal body by surgery

or therapy and diagnostic methods practised on the human or animal body; this provision shall not apply to products, in particular substances or compositions, for use in any of these methods.

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