Examiners' Report – Paper C 2022

Purpose and extent of the examiners' report

The purpose of the examiners' report is to enable candidates to prepare for future examinations (Regulation on the European qualifying examination for professional representatives (REE), Article 6 (6)).

The examination of 2022 was the second exam held online and was split into two parts. Technical aspects of the online exam are not part of this report.

1. Introduction

This year's paper involved discussion of novelty, inventive step and added subject-matter, as well as considerations regarding claims comprising both technical and non-technical features (Guidelines G-VII, 5.4). Attacks based on insufficiency of disclosure (Article 100(b) EPC) are not accepted in Part C of the exam (IPREE, Rule 25(5)). Each part of the examination required dealing with the documents at hand within the allotted time.

In part 1 of the examination, the client's letter gives information regarding the available parts of Annex 1 (A1, i.e. the patent to be opposed), and prior art which may be taken into account, Annexes 2 to 6 (A2 - A6). Only claims 1 and 2 of A1 are available. Independent product claim 1 covers a hybrid yarn. Claim 2 is about a method for producing that yarn.

In part 2 of the examination, the client's letter gives information regarding the further available parts of A1. The prior art is the same as for part 1. The client's letter further describes how the subject matter of claim 3 as filed was split into claims 3 and 4 as granted. Independent product claim 3 is about an electronically detectable ball. Claim 4 is about the ball of claim 3 comprising a yarn consisting of organic fibres and thin metal wires forming a passive antenna. Claim 5 is directed to an arrangement for goal detection comprising the ball of claim 4. Finally, claim 6 relates to a computer-implemented method for adapting the odds in live sports betting when a goal is detected by the arrangement of claim 5.

2. General comments

All the information necessary to oppose the patent is found in the examination documents, which include A1 and the client's letters. Candidates shall not use any special knowledge they may have of the technical field of the invention (Implementing provisions to the Regulation on the European qualifying examination for professional representatives, Rule 22 (3)).

The examination documents comprise definitions of technical nature related to claim features, aspects of the related technical effects and objective technical problems as well as motivations and hints. Accordingly, marks were awarded for use of this information and argumentation based on it.

In candidate's answers, the use of information requires citation of the specific reference in the relevant document (e.g. paragraph, page and line(s), claim, figure, as appropriate). If prior art uses terminology different to the feature in a claim, a full reasoning requires an explanation why the meaning is the same, based on the information provided in the Annexes.

For example, in this year's paper the terms "yarn" of claim 1 and "cord" of A5 had the same meaning in the context of the paper. This could be argued using the statement of A5[0003]: "Such yarns or cords are a continuous length of interlocked, twisted or wound fibres".

For inventive step attacks the candidates' answers were given marks within the structure of the problem-solution approach (Guidelines G-VII.5), even if an answer did not follow it.

The problem-solution approach requires identification of the closest prior art for each inventive step attack. A substantiated argumentation of the choice includes a reason why a document is chosen as the closest prior art. This may, where appropriate, be supplemented by arguments about why it is a better starting point than an alternative prior art.

For example, in this year's paper a possible motivation for choosing the ball of the first prior use of A3 as *closest prior art* against claim 5 was that it has the same purpose, i.e. electronic ball detection, and shows most features of claim 5, i.e. the electronically detectable ball having a bladder and segments sewn by an antenna

yarn, a respective detection technology and the support structure.

The argumentation against inventive step should clearly identify the distinguishing features of the claim compared to the closest prior art. The *technical effect* associated to this distinguishing feature is an advantage which has to be identified in the patent to be opposed and the appropriate basis must be cited.

The *objective technical problem* to be solved has to be established based on the technical effect. However, the objective technical problem must not contain pointers towards the claimed solution, so, typically, the objective technical problem and the technical effect are not identical.

A comprehensive reasoning for lack of inventive step includes a substantiated argumentation *why another document would be considered*, e.g. by pointing to a specific part of the other document that is related to the same purpose or the same objective technical problem.

For example, in this year's paper, the argumentation against inventive step of claim 2 involves the consultation of A4. A substantiated argument would be that the skilled person would look at A4 as it is also about “hybrid cords” (A4, title) and relates to the topic of providing a void with constant dimensions (A4, slide 3: “The Trifluoroacetic Acid mixture was particularly fast and left no residues of Polyamide fibres”).

The reasoning for lack of inventive step should also include a substantiated argumentationas to *"how and why"* one arrives at the subject-matter of a claim when combining the teaching of prior art documents. A generic statement such as ″by combining A5 and A4 one arrives at the subject-matter of claim 2″ does not include an explanation of ″how and why″ the modification would be made.

Alternatively, to the attacks set out in the “possible solution”, marks were awarded depending on the argumentation provided, in particular for motivating how and why certain modifications would be made. Also, if an attack for an antecedent claim was based on the wrong documents, the continuation of that attack in a dependent claim was considered dependent upon the merits.

Marks for attacks on claims 1 and 2 were only awarded if the respective attack was made in part 1 of the examination.

3. Notice of opposition

For the opposition to be admissible it is required that the patent to be opposed as well as the opponent are identified. Payment of the opposition fee has to be indicated. It should be borne in mind that the intended opponent is the company and not the person signing the client's letter.

All relevant information, a statement of the extent to which the European patent is opposed, opposition grounds, evidence, facts and arguments have to be in the answers.Text submitted as part of a candidate's answer has to be clearly related to a line of argumentation to be awarded marks (this is usually not the case for feature tables or copied claim text pasted arbitrarily with a few features identified).

4. Effective dates of the claims and prior art (11 marks)

For part 1 of the exam the information provided in the first letter of the client was to be used to establish the effective dates of patent claims 1 and 2 as well as the status of A2 to A6 as prior art with respect to these claims.

For part 2 of the exam the information provided in the second letter of the client was to be used to explain how patent claims 3 and 4 relate to claim 3 as filed, to establish the effective dates of patent claims 4 to 6 and to assess the status of A2 to A6 as prior art with respect to these claims.

This year's exam only cited two patent documents as prior art (A5 and A6). The remaining prior art required an analysis of what was made public in due time.

A2 was a print out of an internet newsletter with a publication date of April 2016, which is before the filing date of A1. Guidelines G-IV, 7.5, provide information on how to deal with internet disclosures.

A3 was an article published in a football magazine after the effective filing date of the patent. However, A3 disclosed prior uses taking place before the filing date of A1. Guidelines G-IV, 7.2, define how to substantiate prior uses.

A4, finally, were slides, which is a written disclosure, provided to all participants of a conference with a USB stick, and thus made public, before the effective filing date of the opposed patent. Any argument about oral disclosure during the conference was

speculative and irrelevant in this case.

For neither A2, A3 nor A4 it was necessary to offer of a witness or an affidavit in view of the information already in the documents.

5.1 Claim 1 (20 marks)

A5 shows all features of claim 1 so a novelty attack based on this document was expected and considered sufficient. The feature of claim 1, that the void is formed using a solvent, is a "product-by-process feature", thus Guidelines F-IV, 4.12.1, apply. In this case, even though there are two different processes involved, both processes will lead to a void which is all that is required by the subject matter of claim 1. Whereas the expression (suitable) "for" may have an impact on the scope of the claim, the expression "such as" does not limit the claim.

5.2 Claim 2 (13 marks)

No available prior art discloses all features of claim 2, therefore an argumentation against inventive step was expected. Claim 2 introduces a switch from “product” to “method of producing” the product of claim 1. Thus, according to the Guidelines F-IV, 4.13.3, the fact that the method results in the product of claim 1 is to be treated as an integral method step. A full reasoning also required argumentation why A5 is chosen as the closest prior art against claim 2. A4 discloses a method of production of a hybrid yarn using the specific solvent, but no metal wires and other product features.

5.3 Claim 3 (5 marks)

It was expected to conclude that by splitting claim 3 as originally filed into claims 3 and 4 of the patent, features of claim 3 as originally filed were isolated from their context. There was no basis for this isolation in the application documents as filed which contravenes the requirements of Article 123(2) EPC.

5.4 Claim 4 (11 marks + 16 marks)

A novelty attack using A6 was expected, as A6 was prior art under Article 54(3) EPC und disclosed all features of claim 4. This novelty attack was possible based on the implicit disclosure of the rubber bladder by the ball of A6 being sewn from panels and of the passive antenna being formed by the stainless steel wire used for the ball of A6. In both cases, A1 provided the basis for supporting the argument of the implicit disclosure.

A further attack with respect to lack of inventive step of the subject matter of claim 4 was expected, as there was a convincing line of reasoning starting from the first prior use of A3 in combination with A2. In this context it was important to distinguish the prior uses of A3.

5.5 Claim 5 (15 marks)

Claim 5 is directed to an arrangement comprising the ball of claim 4 and goal detector devices. No document discloses all features of claim 5, therefore an argumentation against inventive step was expected. The first prior use of A3 was the best starting point for convincingly arguing lack of inventive step of claim 5.

Starting from second prior use of A3 in 2011 was considered less convincing. The ball of the second prior use was bladderless and already comprised a passive antenna attached to its inner side. However, the skilled person would not be motivated to modify the arrangement of the second prior use by aspects of the ball of the first prior use. The ball of 2011 has the same problem of unreliable goal detection and in any case does not provide the features of the hybrid yarn.

5.6 Claim 6 (9 marks)

Claim 6 was directed to a “mixed type invention” comprising technical and non-technical features.

Candidates were expected to apply the problem solution approach according to the Guidelines G-VII, 5.4. Technical and non-technical features were to be separated to permit a proper argumentation with respect lack of inventive step of the subject

matter of the claim. As claim 6 is dependent on claims 4 and 5, the features of these antecedent claims had to be included into the analysis.

As technology is evolving quickly to include aspects of computer implemented inventions, this type of claims is becoming more frequent in practice.

Possible Solution – Paper C 2022

General (for part 1 of the exam)

Opposition is filed in the name of iBalls Co., Ltd, against Annex 1, i.e. EP 4 474 901 B1 (A1). The opposition fee has been paid. The patent is opposed at least on the grounds of Article 100(a) EPC for lack of novelty and lack of inventive step. The patent is opposed in its entirety (claims 1 - 2 of part 1 of the exam).

Effective Dates

The application does not claim any priority. Furthermore, there is no added subject matter. Thus, the effective filing date of claims 1 and 2 of A1 is the filing date of A1 which is 25.01.2019.

Prior art

Annex 2 (A2) is an internet newsletter by BrainTex AG printed out on 02.01.2022 but with a publication date of April 2016 before the filing date of A1. According to the Guidelines G-IV, 7.5.2, information disclosed in the internet or in online databases is considered to be publicly available as of the date the information was publicly posted. A2 is found using so-called "wayback machine" (archive.org) indicating 2016-04-11 (in its link) as publication date (Guidelines G-IV, 7.5.4). Thus, A2 is Article 54(2) EPC prior art to claims 1 and 2 of A1.

Annex 3 (A3) is an article in the magazine “12 Friends - The Modern Football Magazine”, Vol.2 02/2022. It is published after the filing date of A1. However, A3 discloses prior uses before the filing date of A1. According to the Guidelines G-IV, 7.2, the following has to be determined in order to substantiate a prior use: the date on which the prior use occurred (2010 and 2011), what has been used (the two different embodiments of the ball and the ball detection system) and all the circumstances relating to the use (they were put on the market).

The first prior use is the set of A3a: first model of Vuwuseeler ball and a goal with three integrated transceivers launched in 2010, page 2, lines 19 - 29.

The second prior use is the set of A3b: second model of the Vuwuseeler ball and a portable detection system launched in 2011, page 3, lines 11 - 32.

Thus, the prior uses of A3 are Article 54(2) EPC prior art to claims 1 and 2 of A1.

Annex 4 (A4) are slides printed from a USB stick provided to all participants, so publicly available, latest 25.09.2018, thus before the filing date of A1. Therefore, its content is prior art according to Article 54(2) EPC to claims 1 and 2 of A1 independently of what was presented later.

Annex 5 (A5) is a publication of US Patent application, published 26.09.2018 before the filing date of A1. A5 is prior art according to Article 54(2) EPC to claims 1 and 2 of A1.

Annex 6 (A6) is publication of an EP Patent application, filed 26.04.2018 (before the filing date of A1) and published 28.10.2019 (after the filing date of A1). A6 is prior art according to Article 54(3) EPC to claims 1 and 2 of A1, thus can only be used for arguing lack of novelty or general technical knowledge.

Claim 1 – Lack of novelty (A5)

A5 discloses a yarn (A5, claim 1: “polyester/stainless steel cords” and A5[0003] "cord" is a synonym for “yarn"),

- the yarn is a hybrid yarn (A2, page 1, line 16 and 17),
- the yarn is for use under high mechanical stress conditions (Guidelines F-IV, 4.13.1: "for" is to be interpreted as "suitable for" and thus the yarn must be able to withstand mechanical high stress, A5[0002] "high mechanical stress"),
- such as for a ball for a ball game (Guidelines F-IV, 4.9: the feature is facultative and thus not limiting the scope of the claim),
- the yarn comprises an inner strand of fibres (A5, claim 1: “a core consisting of 3 to 5 polyester fibres”),
- polyester is organic and chemically resistant (A1[0013]),
- the yarn further comprises a circumferential outer layer of 10 - 20 wires (A5, claim 1: “an outer layer consisting of 15 to 30 stainless steel wires", 15 wires

is a point within the range of 10 - 20 wires and thus takes away novelty of that range),

- the wires of A5 are thin metal wires (A5, claim 1: “stainless steel wires of 25 µm diameter”. According to A6[0006] a metal wire of a diameter below 100 µm is a “thin” metal wire, thus the metal wire of A5, claim 1, is “thin”),
- the stainless steel wires of A5 are electrically conductive metal wires (according to A1[0014] stainless steel is an electrical conductor),
- the electrically conductive metal wires are twisted around the inner strand along the longitudinal axis of the yarn (A5, claim 1, states that the wires are "wound around" the inner strand and according to A1[0013] "wound around" is a synonym of “twisted around"), whereby
- a void is formed between the inner strand and the outer layer by removal of material (A5, claim 1),
- the void being formed between the inner strand and the outer layer (by removal of material) using a solvent.

This is a "product-by-process feature", thus the Guidelines F-IV, 4.12.1 apply. The thermal treatment of the yarn of A5 results in at least partial removal of polyamide material and thereby creates a void, see A5[0010]. Treatment of the yarn of A5 with a solvent would also result in at least partial removal of polyamide material and thereby create a void, see A4, slides 2 or 3. Since the product obtained by either process has the same properties (i.e. a void created by at least partial removal of the material between the inner strand and the outer layer) there is no structural difference.

Therefore claim 1 lacks novelty (Article 54 (1), (2) EPC) in view of A5.

Claim 2 – Lack of inventive step (A5 + A4)

According to the Guidelines F-IV, 4.13.3, the fact that the method results in the product is to be treated as an integral method step. The method of claim 2 results in the product of claim 1, therefore the features of the product of claim 1 are part of the subject matter of claim 2.

A5 is the closest prior art. It is the most promising starting point to arrive at the subject matter of claim 2 as it serves the same purpose which is the production of a metal wire and organic fibre hybrid yarn. In addition, it is the only disclosure of the product features of claim 1, in particular metal wires (in contrast to A4), and of most method steps.

See under analysis of claim 1 with respect to the product features of claim 1 being disclosed by A5.

A5 further discloses a method for producing a yarn that comprises

- (a) providing an intermediate layer of polyamide fibres around the inner strand of chemically resistant organic fibres (A5[0010]),
- (b) twisting the thin electrically conductive metal wires around the intermediate layer of polyamide fibres (see under claim 1).

A5 does not disclose

- (c) chemically removing the polyamide fibres by a treatment with a solvent consisting of 40 - 60 wt.-% of trifluoroacetic acid in acetone to provide a void between the inner strand and the thin metal wires.

The technical effect achieved by this distinguishing feature is defined in A1[0015] to provide the “most precise way of controlling the dimension of the void”.

Therefrom the objective technical problem can be derived as to provide a yarn for high stress applications, that ”allows to adapt and guarantee the yarn´s elasticity and tensile strength” (A1[0016]).

The skilled person would look at A4 as it is also about “hybrid” cords or yarns (A4, title) which can be used in high mechanical stress applications (A2, page 1, lines 25 - 28).

The skilled person is prompted to apply this teaching of A4 to that of A5, as A5 mentions drawbacks of the thermal treatment (A5[0010]: non-complete removal, void may not be constant). Further A4, slide 3, states that “trifluoroacetic acid is fast and leaves no residue”.

A4 discloses chemically removing the polyamide fibres by a treatment with a solvent

consisting of 40 – 60 wt.-% of trifluoroacetic acid in acetone to provide a void between the inner strand and the outer layer (A4, slide 2: “Step 4: chemically soluble fibres are removed. A void is created”, and A4, slide 3: “at a concentration of 50 wt.-% in pure Acetone”. The value of 50 wt.-% of trifluoroacetic acid is a point within the range of claim 2 which takes away novelty of that range).

The skilled person would therefore modify the method of A5 by using trifluoroacetic acid in accordance with A4 instead of the thermal treatment to remove the intermediate layer of polyamide fibres.

A4 discloses that the method is applicable to a core of chemically-resistant fibres and an outer layer of chemically-stable fibres (slide 2). These are the same type of materials as in the yarn of A5 which has a polyester core (which is chemically-resistant, see A1[0013]) and an outer layer of chemically-stable stainless steel wires (A1[0014]).

Thus, claim 2 lacks inventive step (Article 56 EPC) in view of A5 and A4.

General (for part 2 of the exam)

The patent is opposed on the grounds of Article 100(a) EPC for lack of novelty and lack of inventive step and of Article 100(c) EPC for added subject matter. The patent is opposed in its entirety.

Effective Dates (for part 2 of the exam)

Claims 4, 5 and 6 of A1 were filed as claims 3, 4 and 5. No priority was claimed. The effective date of granted claims 4, 5 and 6 thus is the filing date of A1 which is 25.01.2019.

Prior art (for part 2 of the exam)

The status of the prior art documents is the same as discussed in the first part of the exam for granted claims 4, 5 and 6 of A1.

Claim 3 – Added subject matter

Claim 3 as filed included limitations which are not present any more in claim 3 as granted.

The details of the ball comprising the antenna yarn can be found in A1, claim 3, as originally filed, and in A1[0018], [0019] and figure 2.

A1[0018] explicitly states that "… segments are stitched together by the hybrid antenna yarn … the resulting passive antenna becomes a structural component of the external covering to allow electronic detection of the ball". Only this combination of the features of claims 3 and 4 as granted (claim 3 as filed) is originally disclosed.

Consequently, the isolation of the features of claim 3 as granted from their context is a generalization of the disclosure of the application as originally filed.

The subject matter of claim 3 therefore extends beyond the content of the patent application as originally filed and thus contravenes Article 123(2) EPC.

Claim 4 – Lack of novelty (A6)

A6 discloses a ball (A6[0011]) comprising

- a rubber bladder (the ball of A6[0011] is sewn from "panels" and A1[0018] specifies that balls which are sewn from segments or panels must have a rubber bladder, thus, a rubber bladder is implicitly disclosed by A6), and
- an external covering enclosing the bladder (A6[0011]: "ball´s outer covering"),
- the covering comprising a plurality of segments (the ball of A6[0011], is sewn from "panels" and A1[0018] states "panels" are "segments"), the covering further comprises
- a passive antenna (A6[0011] discloses that a composite yarn is used for stitching the ball´s panels).

This composite yarn according to A6[0012] comprises "90 stainless steel wires having a diameter of 25 µm". A1[0014] explains that a yarn comprising at least 40 thin stainless- steel wires of 25 µm diameter is needed to provide a detectable signal. Therefore, the composite yarn of A6 will inherently produce detectable signals when used in a ball and thus will form a “passive antenna”.

The ball further comprises

- a yarn fastening the segments of the external covering to each other (A6[0011]: "a composite yarn is used for stitching the ball´s panels"),
- the yarn is a hybrid yarn consisting of organic fibres and thin metal wires (the yarn of A6 consists of organic fibres and stainless steel wires, A6[0012] or claim 1),
- the wires of A6 are thin metal wires (A6[0012] discloses that the stainless steel wires have a diameter of 25 µm and A6[0006] explains that a metal wire of a diameter below 100 µm is a “thin” metal wire),
- such that the passive antenna is a structural component of the external covering (A6[0011]),
- to allow electronic detection of the ball (see above argumentation with respect to the feature “passive antenna”).

Therefore claim 4 lacks novelty (Article 54 (1), (3) EPC) in view of A6.

Claim 4 – Lack of inventive step (A3a and A2)

The ball of A3a is closest prior art as it serves the same purpose which is to provide a ball that is electronically detectable, and has segments sewn together with a metal yarn, which acts as an antenna, and a bladder.

A3a discloses

- an electronically detectable ball (A3, page 2, lines 25 – 29, states “the antenna coils (of the ball) produced in this way could interfere with an electromagnetic field generated by ultrahigh-frequency transceivers of a specific goal” which makes the ball electronically detectable) comprising
- a rubber bladder (A3, page 2, lines 20 and 21: “a high-quality rubber bladder"),
- an external covering enclosing said bladder (A3, page 2, line 23: “ball´s outer casing” which is an “external covering”),
- the covering comprising a plurality of segments (A3, page 2, line 23: “the segments of the ball's outer casing”), the ball further comprises
- a yarn which is fastening the segments of the external covering to each other … the passive antenna is a structural component of the external covering (A3, page 2, lines 22 to 24, state that "a passive antenna (is) formed by a copper yarn" and that "this metal yarn was used to sew the segments of the ball´s outer casing“ thereby “creating a structure consisting of the segments and the yarn"),
- to allow electronic detection of the ball (see above).

A3a does not disclose that:

- (the yarn is) a hybrid yarn consisting of organic fibres and thin metal wires forming the passive antenna.

This distinguishing feature provides the technical effect that the hybrid yarn is "highly elastic and (of) high-tensile strength" (A1[0018]).

Therefore, the distinguishing feature solves the objective technical problem of providing a ball with “reliable goal detection throughout a long lifetime” (A1[0019]).

To solve the objective technical problem posed the skilled person would look at A2 because it relates to an antenna yarn with high tensile strength (A2, page 1, lines 25 - 27).

A2 discloses the distinguishing feature on page 1, lines 17 and 18: “The yarn is a hybrid (composite) yarn as it comprises organic polyester fibres and metal wires”.

A2 discloses further the metal wires being thin (see page 1, lines 13: “metal wires of about 30 µm" diameter” and A6[0006] a metal wire of a diameter below 100 µm is a thin metal wire).

The skilled person is prompted to apply the teaching of A2 to the ball of A3a, as A3, page 2, lines 3 - 7, mentions that the yarn of A3a was unable to withstand high mechanical stress. The yarn of A2 provides this required high mechanical stress resistance, see A2, page 1, line 24: “sports devices are often subject to high mechanical stress due to dynamic deformation”. Therefore, the skilled person would use the hybrid yarn of A2 instead of the copper yarn of A3a for sewing together the segments of the ball of A3a.

There is no hindrance to do so as the yarn of A2 can be used for sewing leather segments of a sports device for a high stress applications, see A2, page 2, lines 12 - 15.

Thus, claim 4 lacks inventive step (Article 56 EPC) in view of A3a and A2.

Claim 5 – Lack of inventive step (A3a+A2+A3b)

A3a is the closest prior art. The set of A3a serves the same purpose as the subject matter of claim 5, which is electronic ball detection, and comprises a ball which is sewn together with an antenna yarn and in addition uses magnetic field detection technology using transceivers.

The set of A3b uses transceivers removably attachable to a goal, but includes a ball having a seamless covering with antenna coils attached to its inner side. Therefore, the ball of A3b would require extensive modifications to arrive at the subject matter of

claim 4.

See arguments under claim 4 for the features of the ball of claim 4 being disclosed by A3a.

A3a discloses

- an arrangement for goal detection (A3, page 2, lines 25 – 29), the arrangement comprising
- at least three ultrahigh-frequency electromagnetic waves sending and receiving units (A3, page 2, lines 27 - 29: "transceivers were integral parts of the two goal posts and the crossbar", which means that at least three transceivers are present, whereby A2, page 2, lines 5 - 8, explains that a transceiver is an electromagnetic wave sending and receiving unit),
- the ultrahigh-frequency electromagnetic wave sending and receiving units are configured to detect that the ball is crossing a predefined area (A3, page 2, lines 25 - 29, a goal is a “predefined area”).

A3a does not disclose

- (a) the hybrid antenna yarn of claim 4,
- (b) the electromagnetic wave sending and receiving units are releasably attachable to a support structure limiting the predefined area.

For the technical effect, the objective technical problem and the argumentation concerning distinguishing feature (a) see under claim 4.

The technical effect of distinguishing feature (b) is that the goal detection system is “portable” (A1[0020]).

This solves the objective technical problem of providing a goal detection system which allows the referees at amateur level to bring the set along and install it (A1[0020]).

The distinguishing features (a) and (b) solve objective technical problems that are technically unrelated, because (a) relates to durability of the ball, whereas (b) relates to flexibility of the detection set. Therefore, the two distinguishing features are not synergistically linked such that the partial problem approach according to Guidelines

G-VII, 5.2 and G-VII, 6 applies.

The skilled person would look at A3b as it also deals with a system using transceivers (A3, page 3, lines 24 – 26: “smart referee detection set … comprised three transceivers”).

A3, page 3, lines 25 - 26, discloses that the electromagnetic wave sending and receiving units of A3b are “removably attached” to the frame of a goal, which is a support structure limiting a predefined area.

The skilled person would use the electromagnetic waves sending and receiving units of A3b as these can be attached to any existing standard goal without further modification (A3, page 3, lines 26 - 29: "unlike the first version, the otherwise technically identical system meant that it was not necessary to buy goals having an integrated detection system").

The skilled person would also be able to provide the transceivers for ball detection as the detection technology is the same as the one integrated in the goal of A3a (A3, page 3, lines 28: “technically identical system”).

Therefore, the subject matter of claim 5 lacks inventive step (Article 56 EPC) in view of the combination of A3a with A2 and A3b.

Claim 6 – Lack of inventive step (A3a+A2+A3b)

Claim 6 comprises technical features and non-technical features. In this case the "mixed type invention" approach applies (Guidelines G-VII, 5.4).

The technical features of claim 6 are:

- the method is "computer implemented”. According to the Guidelines G-II, 3.6, a method being implemented on a computer is technical as a computer, which per se is technical, is involved,
- the “goal is detected by the arrangement of claim 5”.

The non-technical feature of claim 6 is:

- “adapting the odds of a live sports betting”, as it refers to a business method (A1[0022] talks about “live sports betting business“ and A3, page 5, lines 11-

14, mentions that sport betting is a “commercial issue”). According to the Guidelines G-II, 3.5.3, a business method is non-technical.

The closest prior art is A3a for the same reasons as for claim 5 because according to Guidelines G-VII, 5.4, only technical features have to be taken into account to identify the closest prior art.

A3a does not disclose

- distinguishing feature (a) of claim 4 (the hybrid antenna yarn) and
- distinguishing feature (b) of claim 5 (the electromagnetic waves sending and receiving units are releasably attachable to a support structure at limiting the predefined area).

A3a further does not disclose

- the computer implementation of the method of claim 6 (c1) and the adaptation the odds of a live sport betting (c2) of claim 6.

Distinguishing features (a) and (b) are already discussed in relation to claims 4 and 5 and, as stated above, do not render the subject matter of the claim inventive.

Distinguishing feature (c2) does not make a technical contribution as it is a business method and cannot support the presence of an inventive step (Guidelines G-VII, 5.4 (iii) (c)).

Therefore, distinguishing feature (c2) can only be used to formulate the technical effect of distinguishing feature (c1), which is to automate the method of adapting the odds of a live sport betting (A1[0022]: "fast and automated processing of information is becoming standard").

Thus, the objective technical problem solved by distinguishing feature (c1) is to implement that adaptation of the odds of life sports betting.

The distinguishing features (a), (b) and (c1) solve objective technical problems that are technically unrelated. Therefore, the three distinguishing features are not synergistically linked such that the partial problem approach according to Guidelines G-VII, 5.2 and G-VII, 6, applies.

Implementing the method for adaptation of the odds of a live sport betting on a

computer is not inventive as it requires routine programming only (Guidelines G-VII, 5.4.2.2).

Therefore, the subject matter of claim 6 lacks inventive step (Article 56 EPC) in view of the combination of A3a with A2 and A3b.