Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 16 February 2026

Case Number: T 0961/24 - 3.4.01

Application Number: 14192579.2

Publication Number: 3018978

IPC: H05B47/19, H04W40/24

Language of the proceedings: EN

Title of invention:
Method for setting up and operating a network of luminaires

Patent Proprietor:
Schreder

Opponent:
Zumtobel Lighting GmbH

Headword:
Network of luminaires / Schreder

Relevant legal provisions:
EPC Art. 100(b), 100(c), 84, 123(2), 52(1), 56

Keyword:
Main Request, Auxiliary Requests 0bis, 1, 1bis - extension of subject-matter (yes)
Main Request - sufficiency of disclosure (yes)
Auxiliary Requests 1, 1bis, 1ter - clarity (no)
Admittance of novelty as new ground for opposition (no)
Auxiliary Request 1quater - admittance (yes), inventive step (yes)

Decisions cited:
G 0009/91, G 0010/91

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0

Case Number: T 0961/24 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 16 February 2026

Appellant: (Opponent)	Zumtobel Lighting GmbH Schweizer Strasse 30 6850 Dornbirn (AT)
Representative:	Beder, Jens Mitscherlich PartmbB Karlstraße 7 80333 München (DE)
Respondent: (Patent Proprietor)	Schreder Rue de Lusambo 67 1190 Bruxelles (BE)
Representative:	Arnold & Siedsma Bezuidenhoutseweg 57 2594 AC The Hague (NL)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 17 May 2024 rejecting the opposition filed against European patent No. 3018978 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chair	P. Scriven
Members:	T. Petelski
	B. Müller
	P. Fontenay
	L. Bühler

Summary of Facts and Submissions

I. The opponent appealed the Opposition Division's decision to reject the opposition. They requested that the decision be set aside and that the patent be revoked.

II. In their response to the appeal, the proprietor requested that the appeal be dismissed and that the opposition be rejected (Main Request), or that the patent be maintained according to one of the following auxiliary requests, in order: Auxiliary Request 0*bis*, 1, 1*bis*, 2, 2*bis*, 3, 3*bis*, 4, 4*bis*, 5, 5*bis*, 6, 6*bis*, 7, 7*bis*, 8, 8*bis*, 9, 9*bis*, 10, 10*bis*, 11, and 11*bis*. The -*bis* versions were first filed in response to the appeal, while the others are from the proceedings before the Opposition Division.

III. The proprietor also requested that the case be remitted to the Opposition Division "for the attacks which were not decided upon by the Opposition Division."

IV. Oral proceedings were requested by both the opponent, and the proprietor.

V. In an annex to the summons to oral proceedings, the Board informed the parties of its preliminary opinion, which was as follows:

(a) The Main Request was not allowable, because the subject-matter of claims 1 and 31 extended beyond the content of the application as filed. On the other hand, the invention was sufficiently disclosed and did involve an inventive step.

(b) The *-bis* versions of the auxiliary requests did not help the proprietor's case and would, most probably, not be admitted.

(c) Auxiliary Request 1, while solving the problem with the Main Request, might have other issues that could result in it not being allowable.

(d) Auxiliary Requests 2 to 11 were unlikely to be considered.

VI. In order to address the potential problems of added subject-matter, the proprietor submitted Auxiliary Requests 1*ter*, 3*ter*, 5*ter*, 7ter, 9*ter*, and 11*ter*.

VII. During oral proceedings before the Board, the proprietor submitted a further Auxiliary Request, 1*quater*, to be inserted after Auxiliary Request 1*ter*. Other than that, the proprietor maintained all their previous requests. Accordingly, the final list of the proprietor's requests is as follows (in order): Main Request; Auxiliary Request 0*bis*, 1, 1*bis*, 1*ter*, 1*quater*, 2, 2*bis*, 3, 3*bis*, 3*ter*, 4, 4*bis*, 5, 5*bis*, 5*ter*, 6, 6*bis*, 7, 7*bis*, 7*ter*, 8, 8*bis*, 9, 9*bis*, 9*ter*, 10, 10*bis*, 11, 11*bis*, and 11*ter*. The opponent maintained their initial request that the patent be revoked.

VIII. Claim 1 of the patent reads (reference signs omitted and feature labels added):

1 *Method for operating a network of luminaires, wherein the network of luminaires comprises*
1.1 *a plurality of luminaires, in particular street lights,*
1.2 *a plurality of control modules and*
1.3 *a server,*
wherein

2 *each of said plurality of control modules is assigned to a respective one of said plurality of luminaires and comprises:*
2.1 *- a long-range communication module,*
2.2 *- a short-range communication module,*
2.3 *- a geocoordinates module,*
2.4 *- a controller, and*
2.5 *- a control output for controlling a driver of the respective luminaire,*
2.6 *the control output being adapted to output control signals for the driver of a luminous means of the respective luminaire, wherein*
2.7 *the respective long-range communication module of each control module is adapted to reach said server,*

3 *the method including the step of dividing the plurality of control modules into at least one group of control modules, characterized in that*

4 *said division into at least one group of control modules is done in order to set up*

the network on the basis of environmental, luminaire and/or control module information provided by the control modules,

5 *characterized in that the method further comprises the following steps:*

5.1 • *selecting by the server one of the control modules in each of said at least one group of control modules as the group controller,*

5.2 • *forming a short-range network of control modules within each of said at least one group via the respective short-range communication modules,*

6 *the control modules in each of said at least one group communicating by means of their short-range communication modules, wherein*

6.1 *in the normal operating state of the network of luminaires, only each group controller transmits via the respective long-range communication module to the server, at least one of its own environmental, luminaire and control module information, and at least one of the environmental, luminaire and control module information received from the control modules of its respective group via their short-range communication module, wherein*

6.1.1 *said normal operating state is a control mode of the network of luminaires, in which each of said plurality of control modules is assigned to a respective one of*

said at least one group of control modules and perform the control of the respective luminaire, and wherein,

6.2 *after successfully setting up the short-range network inside a respective one of the at least one group of control modules, the respective group controller reports the successful set up to the server.*

IX. Claim 31 of the patent reads (reference signs omitted and feature labels added):

11 *Network of luminaires comprising*
11.1 *a plurality of luminaires, in particular street lights,*
11.2 *a plurality of control modules and*
11.3 *a server, wherein*

12 *each of said plurality of control modules is assigned to a respective one of said plurality of luminaires and comprises:*
12.1 *- a long-range communication module,*
12.2 *- a short-range communication module,*
12.3 *- a geocoordinates module,*
12.4 *- a controller, and*
12.5 *- a control output for controlling a driver of the respective luminaire,*
12.6 *the control output being configured to output control signals for the driver of a luminous means of the respective luminaire, wherein*
12.7 *the respective long-range communication module of each control module is adapted to reach said server,*

13 *the network of luminaires being characterized in that*
- said plurality of control modules is divided in at least one group of control modules

14 *in order to set up the network on the basis of at least one of environmental, luminaire and control module information provided by the control modules;*

15.1 *- the server is adapted to select one of the control modules in each group as the group controller;*
15.2 *- the respective short-range communication modules form a short-range network within each of said at least one group of control modules,*

16 *the respective control modules within each group being configured to communicate with one another via their respective short-range communication modules,*
16.a *- each of said at least one group of control modules comprising a respective group controller, each group controller being configured to communicate with other control modules in the respective group by means of its respective short-range communication module,*
16.b *the control modules in a respective group other than the respective group controller being configured to transmit, to the respective group controller of their group, via their short-range communication modules, at least one of their own*

environmental, luminaire and control module information,

16.1 *wherein, in the normal operating state of the network of luminaires, only the respective group controller of each of said at least one group is configured to transmit via the respective long-range communication module to the server, at least one of its own environmental, luminaire and control module information, and at least one of environmental, luminaire and control module information received from the other control modules of the respective group via their short-range communication module,*

16.1.1 *said normal operating state being a control mode of the network of luminaires, in which each of said plurality of modules is assigned to a respective one of said at least one group and perform the control of the respective luminaire, wherein*

16.2 *each group controller is configured for, after successfully set up* [sic] *of the respective short-range network inside its respective group, reporting this successful set up to the server.*

X. Auxiliary Request 0*bis* differs from the Main Request in that the words "of control modules" are deleted, in feature 5.2 of claim 1.

XI. Auxiliary Request 1 differs from the Main Request in that the formulation *"at least one of" A, B and C*, is

replaced by *A, B "and/or" C* in features 6.1 and 16.1 of claims 1 and 31.

XII. Auxiliary Request 1*bis* differs from Auxiliary Request 1 in that the words "of control modules" are deleted, in feature 5.2 of claim 1.

XIII. Auxiliary Request 1*ter* differs from Auxiliary Request 1 in that the formulation *"at least one of" A, B and C*, is replaced by *A, B "and/or" C* also in features 14 and 16.b of claim 31.

XIV. Auxiliary Request 1*quater* differs from Auxiliary Request 1*ter* in that the "or"- combination has been deleted from the formulation *A, B "and/or" C*, in feature 6.1 of claim 1, and in that claim 31 has been deleted.

XV. The other auxiliary requests are not relevant for this decision.

XVI. The decision refers to the following documents:

D1: WO 2015/000803 A1
D10: US 8,820,952 B2

Reasons for the Decision

Main Request - extension beyond the application as filed

Claim 1, feature 6.1; claim 31, feature 16.1

1. Claim 1 as originally filed defines the transmission of "environmental, luminaire and/or control module information" to the server. This feature was amended during examination proceedings, such that corresponding feature 6.1 of claim 1 of the patent (and feature 16.1 of claim 31) defines the transmission of "at least one of ... environmental, luminaire and control module information" to the server.

2. The proprietor argued that the normal understanding of an expression of the form "A, B and/or C" in claim 1 as filed was "A and/or B and/or C", which was equivalent to "at least one of A, B and C". Therefore, claim 1 as filed provided a basis for features 6.1 and 16.1.

3. The proprietor added that the above understanding of the expression "A, B and/or C" was supported by the description, both from a linguistic and from a technical point of view.

4. This was so, firstly, because the skilled person would recognize that the application consistently used the AP (Associated Press) style, in which no Oxford comma was used after the penultimate item of a simple list of items. They would, in particular, see this from the context of paragraph [0023], column 5, line 14; and paragraph [0028], column 6, line 10 (references are made to the A1-publication). In the AP style, the conjunction after the penultimate item in the list "A,

B and/or C" applied to all items of the list, and meant "A and/or B and/or C".

5. Secondly, the teaching of paragraphs [0027] and [0028] would lead the skilled person to the same conclusion. Paragraph [0027], column 5, lines 42 to 46, disclosed that neighbourhood information, which was an example of environmental information, could be transmitted to the server together with luminaire-specific and control module-specific information. This was a disclosure of "A and B and C". Paragraph [0028], column 6, lines 2 to 5, disclosed transmitting information about the connection quality to adjacent control modules, together with further geospecific and/or luminaire-specific or control module-specific information. As both the connection quality and the geospecific information were forms of environmental information according to paragraph [0008], paragraph [0028] disclosed "A and/or B or C", which was equivalent to "A; or A and B; or A and C". The examples in paragraphs [0027] and [0028] only allowed the conclusion that "A, B and/or C" had to be understood as "A and/or B and/or C", which, in turn, was equivalent to "at least one of A, B and C".

6. The proprietor's arguments are not persuasive.

7. The expression "A, B and/or C", which is found in claim 1 as filed, and also in paragraph [0008] of the (published) application, is, by itself, ambiguous. It can be understood as

- "A, B, or C, or any combination of them";
- "A and B and C; or A and C"; or as
- "A and B and C; or A or B or C" (all three together or just one alone).

8. Contrary to the proprietor's view, the application provides neither a linguistic nor a technical teaching that would favour one of those understandings over the other ones.

9. First, the person skilled in the art is technically skilled and would try to understand the content of the application from a technical point of view. She would not, however, analyse the entire application for its use of the Oxford comma or seek to interpret the text on the basis of some unmentioned style guide. Moreover, even if she did attempt such a textual analysis, the cited passages in paragraphs [0023] and [0028] are no indication of the AP-style, because not all possible combinations are actually meaningful. To name one example: it does not appear to make sense only to signal a successful start-up when installing a new luminaire *and* a new control module *and* after maintenance work on the luminaire has been done (paragraph [0023]). It also makes little sense to change the division of the groups without checking them (paragraph [0028]). In addition, even the AP-style suggests the use of Oxford commas whenever this would clarify the intended meaning.

10. From a technical point of view, the application also fails to clarify which of the possible interpretations of "A, B and/or C" is meant.

11. In the analysis of the application as filed, it is important to distinguish between the setting-up of the network in each group, on the basis of environmental, luminaire, and/or control module information (features 4 and 14), and the subsequent normal operating state, in which the network has already been set up, and during which the at least one of environmental,

luminaire and control module information is transmitted to and from the group controller (features 6.1 and 16.1).

12. Claims 1 and 31 of the patent leave open how the environmental, luminaire, and/or control module information required for the division into groups during the setting-up is transmitted. As this information must have been transmitted prior to the division into groups and the selection of the group controller, the latter cannot have been responsible for transmitting it.

13. Paragraph [0027] of the application as published discloses the transmission of neighbourhood information in the form of a table of closest neighbours, which, according to paragraph [0008], is a form of environmental information, as well as the transmission of luminaire and control module information to the server in the normal operating state ("A and B and C").

14. Paragraph [0028], which fails to clarify whether it refers to the normal operating state or some other, more fail-safe state of operation, mentions the transmission of information on the connection quality (which is environmental information), "possibly together with further geospecific and/or luminaire-specific or control module-specific information" to the server. In contrast to the understanding advocated by the opponent, this can be understood to mean that the connection quality is always transmitted, possibly together with any other kind of information, if there is any ("A, possibly with further A and/or B or C"). This understanding is technically meaningful, as information about the connection quality could be useful at every stage of the setup and operation,

indicating potential transmission problems that might require a renewed setup or change in the network.

15. There is no disclosure, however, in the application as filed for transmitting *only* luminaire or control module information, something that is comprised in the formulation "at least one of" in claims 1 and 31, even under the assumption that paragraph [0028] refers to the normal operating state.

16. Hence, given that the application as filed is ambiguous and neither the language use nor technical considerations disambiguate, there is no clear and unambiguous basis for the formulation "at least one of A, B and C" in features 6.1 and 16.1 of claims 1 and 31, respectively.

17. It follows that the subject-matters of claims 1 and 31 extend beyond the content of the application as filed, and Article 100 (c) EPC prejudices the maintenance of the patent as granted.

18. In view of the above conclusion, it is not necessary to review the other objections to the Main Request. Nonetheless, in order better to assess the auxiliary requests, the Board will review those of the other objections as to extension beyond the application as filed (see the remainder of this section) and to sufficiency of disclosure (see the following section), which are relevant for this decision.

Consideration of further objections

19. The proprietor argued that the objections of extension beyond the application as filed to features 2.6 and 12.6, 5.2 and 15.2, and 6 and 16 in claims 1 and 31, which were not admitted by the Opposition Division for lack of *prima facie* relevance, should still not be considered.

20. For the Board, it is apparent, without extensive investigation, that these objections are not persuasive. In view of procedural economy, the Board prefers their consideration to a discussion on admission.

Claim 1, feature 2.6; claim 31, feature 12.6

21. The features preceding features 2.6 and 12.6 define that each control module controls the driver of the associated luminaire by using a control signal. The control signal is output via the control module's control output. This means that the control signal is intended "for" the driver and must be directed "to" it, be it directly or indirectly. Accordingly, and in contrast to the opponent's view, the technical information is the same, regardless of whether the claim defines the control module as outputting a control signal "for" the driver, which is the formulation of features 2.6 and 12.6 in the claims of the patent, or "to" the driver, which is the formulation in the claims as filed.

Claim 1, feature 5.2; claim 31, feature 15.2

22. While the opponent is correct in that feature 5.2, taken alone, might be understood to include forming a network that consists of only a proper subset of the control modules in a group, which would be in contrast to the claims as filed, the subsequent features in claim 1 make it clear that all control modules of the group are included in the network. Features 6 and 6.1 (and 16, 16.b, 16.1) define that communication takes place between "the control modules" in each group, such that each group controller receives the required information "from the control modules of its respective group". Hence, there is no broadening of the subject-matter of claim 1 beyond claim 1 as filed. The opponent's argument does not apply to claim 31 of the patent at all, because feature 15.2, together with feature 16, is unambiguous in that the networks are formed by all control modules of the respective group.

Claim 1, feature 6; claim 31, feature 16

23. Feature 6 defines, together with feature 5.2, that the control modules in each group communicate within their respective short-range network. This leaves open whether the control modules communicate only with the group controller or also with the other control modules. Feature 16 defines that the control modules in each group are configured to communicate with one another.

24. According to the opponent, the application as filed contained no basis for a communication of the control units other than with their respective group controller.

25. However, it is clear, from the application as filed, that the control modules in each group communicate not only with the group controller but also amongst themselves. According to paragraphs [0008] (col.2, l.35 - 38) and [0010] of the published application, the network can be a "mesh network", which is also reflected by the optional feature in claim 1 as filed. A mesh network implies the presence of more communication paths than just those to the group controller. Furthermore, the rules applied in the selection of the group controller (see paragraph [0038]) imply that each of the control modules could potentially be selected as a group controller (see also paragraph [0009], second sentence), which means that each of them must be configured so as to be able to communicate with other control modules. Finally, paragraphs [0027] and [0028] state that the control modules contact neighbouring control modules directly. This means that the control modules are configured to communicate with each other.

26. Hence, the description provides sufficient basis for the communication between the control modules in each group, as defined in claims 1 and 31 of the patent.

Main Request - sufficiency of disclosure

27. Claim 1 of the patent defines a step of "dividing the plurality of control modules into at least one group of control modules" (feature 3). Claim 31 of the patent contains a corresponding definition (feature 13).

28. The opponent was of the view that a division into just one group was intrinsically contradictory and could not be carried out.

29. This is not persuasive. The division of a plurality of entities into one group is no more incoherent than the division of a natural number by one. In the technical terms of the patent, the division into groups is based on information provided by the control modules (features 4 and 14 in claims 1 and 31 and paragraph [0012] of the patent). Paragraph [0044] of the patent presents a variety of rules which indicate how such information can be used to assign the control modules to respective groups. The skilled person understands that, under certain circumstances, for example, very few and closely spaced control modules, they might be assigned to just one group. Therefore, the skilled person has a problem neither with the concept of a division of the control modules into at least one group nor with the technical realization.

30. Hence, there is no fault in the Opposition Division's finding that the invention as defined in the claims is sufficiently disclosed (Article 100(b) EPC).

Consideration of further objections

31. The proprietor argued that the objections to features 4, 5.2, 14, and 15.2 in claims 1 and 31, which were not admitted by the Opposition Division for lack of *prima facie* relevance, should still not be considered.

32. For the Board, it is apparent, without extensive investigation, that these objections are not persuasive. This is explained in the following. As for the issues of added matter, in view of procedural economy, the Board prefers the consideration of these objections to a discussion on their admission.

Claim 1, feature 4; claim 31, feature 14

33. The opponent was of the opinion that the patent did not teach how to group the control units, in order to set up a short-range network, without basing this step on position information. Without position information, there was no way to prevent control units from being grouped in such a way that they were too far apart for their short-range communication modules to communicate with each other.

34. It is true that the step of dividing the plurality of control units into groups in claims 1 and 31 is not necessarily based on position information. However, this does not necessarily pose a problem to the skilled person. A grouping based on information other than position information is possible whenever a short-range communication system is employed, with a range covering the entire distribution of control units. In that case, a viable communication path between the control modules of one group (features 5.2, 6, 6.1; and 15.2, 16, 16.1) is ensured, regardless of how they are grouped. If this were not feasible, some groups, or all of them, might be formed by just one control module, or the skilled person would base the grouping, additionally, on position information, which is not excluded by claims 1 and 31. The patent explicitly mentions the use of geoinformation for exactly this purpose, in some embodiments.

Claim 1, feature 5.2; claim 31, feature 15.2

35. In the opponent's view, features 5.2 and 15.2 did not require that more than two control modules in a group be part of the network within that group, with these at

least two not necessarily having to include the group controller. The skilled person did not know how communication within the group was to be carried out in such cases.

36. The opponent's argument is based on the assumption that not all control modules within one group were part of the communication network. However, the Board is of the view that, according to claims 1 and 31, all control modules within a group are part of the communication network (see above point 22.). Hence, the opponent's objection is unfounded.

Auxiliary Request 0bis

37. Claims 1 and 31 of Auxiliary Request 0*bis* are identical to claims 1 and 31 of the patent, except for the deletion of the short-term network as being "of control modules" in feature 5.2.

38. The deletion in feature 5.2 has no effect on features 6.1 and 16.1. Consequently, Auxiliary Request 0*bis* fails for the same reason of extension of subject-matter as the Main Request (Article 123(2) EPC).

Auxiliary Request 1

39. Claims 1 and 31 differ from those of the patent in that the expression "at least one of ... environmental, luminaire and control module information" in features 6.1 and 16.1 has been replaced by the expression "environmental, luminaire and/or control module information".

40. The amendment is based on the wording of claim 1 as filed and does not extend beyond the subject-matter of the claims of the patent. In each possible understanding, "A, B and/or C" is comprised in "at least one of A, B and C" (see point 7.). Hence, the prohibitions in Articles 123(2) and (3) EPC are respected, when considering this amendment alone.

41. However, as established with regard to the patent as granted (see above point 7.), the expression "A, B and/or C" is ambiguous. Accordingly, the amendments to features 6.1 and 16.1 introduce ambiguities that render the subject-matter of claim 1 unclear (Article 84 EPC).

42. Furthermore, features 14 and 16.b of claim 31 still contain the formulation "at least one of A, B and C", which has been found to be problematic in features 6.1 and 16.1 of the patent (see above points 7. to 16.). The reasoning of extension of subject-matter with regard to the latter features applies analogously to the former (Article 123(2) EPC).

43. The proprietor argued that both the objection of lack of clarity, and the objection of extension of the subject-matter were raised, by the opponent, for the first time, during oral proceedings before the Board. The allegedly unclear expression "A, B and/or C" was already present in feature 4 of claim 1 of the patent as granted, and the expression "at least one of A, B and C", allegedly non originally disclosed, was already present in features 14 and 16.b of claim 31 of the patent as granted. Hence, the opponent could and should have raised these objections earlier, and should not be admitted into the proceedings.

44. Furthermore, the observation in the communication setting out the Board's preliminary opinion that the expression "A, B and/or C" was ambiguous was made with regard to the extension of subject-matter and was not an objection of lack of clarity in claim 1.

45. The proprietor added that, regardless of admission, it was clear, for the skilled person, that the expression "A, B and/or C" meant "A and/or B and/or C", not least in the light of paragraphs [0027] and [0028] of the application as filed.

46. The proprietor's arguments are not persuasive. The proprietor had no reason to assume that the objection of extension of subject-matter, raised in relation to the expression "at least one of A, B and C", in features 6.1 and 16.1 would not apply similarly to the identical expression in features 14 and 16.b. The Board cannot ignore this apparent deficiency in the claims, even if the opponent took up this issue only after the Board had pointed it out in its communication. For similar reasons, it would be inconsistent to ignore the finding that the expression "A, B and/or C" is ambiguous when examining the conformity of claim 1 with the EPC, even if this finding were made in the context of assessing the extension of subject-matter.

47. Regarding the question of clarity, it should in any case be noted that, according to Article 101(3) EPC, amendments of the claims, in this case the amendments of features 6.1 and 16.1, have to be fully examined as to their compatibility with the requirements of the EPC (see G 9/91 *Power to examine,* OJ EPO 1993, 408, reasons, point 19).

48. Therefore, the objections under Articles 84 and 123(2) EPC are considered. For the reasons already set out previously, they are also well founded.

49. Hence, Auxiliary Request 1 is not allowable.

Auxiliary Request 1bis

50. Claim 31 of Auxiliary Request 1*bis* is identical to claim 31 of Auxiliary Request 1.

51. Consequently it fails for the same reasons of lack of clarity and extension of subject-matter (Articles 84 and 123(2) EPC).

Auxiliary Request 1ter

52. Claims 1 and 31 differ from those of the patent in that the expression "at least one of ... environmental, luminaire and control module information" has been replaced by the expression "environmental, luminaire and/or control module information", not only in features 6.1 and 16.1 (as in Auxiliary Request 1), but also in features 14 and 16.b.

53. Therefore, the respective objections of extension of subject-matter with regard to the patent as granted and Auxiliary Request 1 are overcome.

54. However, the same lack of clarity associated with the formulation "A, B and/or C" is present as in Auxiliary Request 1, concerning the amendments to features 6.1, 14, 16.b, and 16.1 (Article 84 EPC).

55. Hence, Auxiliary Request 1*ter* is not allowable, regardless of the question of its admission.

Auxiliary Request 1quater - admission

56. Claim 1 differs from Auxiliary Request 1*ter* in that the formulation "environmental, luminaire and/or control module information" in feature 6.1 of claim 1 has been replaced by the formulation "environmental, luminaire, and control module information", and in that claim 31 has been deleted.

57. Auxiliary Request 1*quater* was filed during oral proceedings before the Board. Its admission is subject to the provisions of Article 13 RPBA.

58. The opponent argued that this request should not be admitted. The objections to Auxiliary request 1*ter*, which were the alleged reasons for filing this new request, had been known, to the proprietor, already from the Board's preliminary opinion. Therefore, the proprietor could and should have filed this request earlier.

59. Furthermore, and *prima facie*, there was no basis in the application as filed for the amendment, in particular not in paragraph [0027], which did not relate to the normal operating state. Additionally, the "and" conjunction in feature 6.1 contradicted the "and/or" conjunction in feature 4 of claim 1, thereby introducing a clarity issue.

60. The Board admits Auxiliary Request 4*quater* into the proceedings. This is based on the following considerations:

(a) Although the Board, in its provisional opinion, pointed to potential problems with Auxiliary Request 1*ter*, no explicit objections were raised. Therefore, a certain factor of surprise is recognized.

(b) It is a matter of the right to be heard to admit not only the objections to Auxiliary Request 1*ter* into the proceedings, but also the reaction to these objections in the form of Auxiliary Request 1*quater* (Article 13(3) RPBA and Article 113(1) EPC).

(c) Auxiliary Request 1*quater* is, *prima facie*, allowable. In particular, the formulation "A, B, and C" in feature 6.1 of claim 1 resolves the lack of clarity. First, because it is unambiguous, and second, because there is no contradiction with feature 4. Feature 6.1 relates to a transmission in the normal operating state, whereas feature 4 relates to a previous transmission during the set up of the network, which might involve the transmission of different information. Also, "A, B, and C" has a basis in claim 1 as filed, because it is encompassed in every possible understanding of "A, B and/or C". Furthermore, the deletion of claim 31 solves the issue of extension of subject-matter in features 14 and 16.b.

Auxiliary Request 1quater - novelty in view of D1

61. The ground for opposition of lack of novelty was introduced, by the opponent, after the expiry of the opposition period and after notification of the Opposition Division's preliminary opinion. The Opposition Division did not admit this fresh ground for opposition into the proceedings, for lack of *prima facie* relevance.

62. The Board cannot consider a new ground for opposition without the proprietor's agreement (G 10/91, *Examination of oppositions/appeal*, OJ EPO 1993, 420, headnote point 3), which is not present in this case.

Auxiliary Request 1quater - inventive step in view of D10

63. The opponent, by referring to their arguments put forward in relation to claim 1 of the patent, argued that the subject-matter of claim 1 did not involve an inventive step, starting from D10.

64. D10 is about remotely managing a large number of street lights. Each of the street lights is controlled by a nearby controller. Each controller comprises a transceiver, which allows it to communicate with other controllers and with gateways, the latter being in communication with a central server. In order to simplify the management of the street lights through the server, the street lights and their controllers may be divided into groups.

65. According to the opponent, D10 disclosed, in particular, features 5.1 and 6.1. This was evident from column 6, lines 39 to 43, which said that certain

controllers could serve as a relay for other controllers and propagate data to and from the server. Hence, the only distinguishing feature was the reporting of the successful setup of the network of controllers to the server (feature 6.2). However, given that signalling the readiness to operate was a well-known and obvious measure, the invention would have been obvious to the skilled person.

66. The Board, however, comes to the conclusion that, at least, D10 does not disclose the following features of claim 1:

(a) Each control module comprises a long-range communication module adapted to reach the server (features 2.1 and 2.7).

Instead, the control modules in D10 only comprise an RF transceiver that is adapted to communicate with other control modules and with a gateway (D10: column 5, lines 4 - 18; column 6, lines 27 - 36). It is only the gateways that communicate with the server (column 5, lines 19 - 22 and 28 - 29; column 7, lines 26 - 34). The opponent is correct in that the streetlight controller 104 is mentioned, along with the gateway device 108, the configurator 124, and devices 116, 120 or 122, as an example for the computing device 5400 or the mobile device 5450 shown in Figure 54 (column 31, lines 48 - 53). However, the subsequent description in columns 31 to 34 makes it clear that this does not mean that the exact mobile device 5450, as shown in Figure 54, is intended to be used in the streetlight controller 104. Rather, the description makes it clear that the general mobile device 5450 as shown in Figure 54 is intended to be "implemented as a

cellular telephone", "as part of a smartphone, personal digital assistant, tablet computer, or similar mobile device" (column 34, lines 13 - 27; see also column 31, lines 57 - 60), i.e. in the devices 120 and 122 of Figure 1.

(b) Selecting, by the server, one of the control modules in each group as the group controller (feature 5.1), which, in a normal operating state (the control mode), is the only controller within each group that transmits information to the server via its long-range communication module (feature 6.1).

D10 does not disclose that the server selects a particular controller within a group for exclusive communication. As the opponent rightly points out, certain controllers may act as a relay for other controllers (column 6, lines 38 - 42; column 7, lines 6 - 10). However, such controllers are not selected by the server, and their role as a relay is independent of any grouping of controllers managed through the server. This grouping is only performed for the purpose of control (column 8, lines 11 - 19; column 11, lines 7 - 14), for example, in order to assign certain lighting schedules (column 10, lines 47 - 50; column 11, lines 32 - 38), but not for communication purposes. In addition, the controllers in D10 do not comprise long-range communication modules for direct communication with the server, because they communicate with the server only via the gateways (see Figures 1 and 10; and column 14, line 64, to column 15, line 2).

(c) The group controller reports the successful set-up of the short-range network inside a group to the server (feature 6.2).

In D10, the groups that were selected for simplified control do not form communication networks. Therefore, there is no successful set-up that could be reported to the server. Also, there is no group controller in those groups. On the other hand, the server is unaware of - and does not administer - those "groups" of controllers that use one of them as a relay. Hence, a report would be similarly useless.

67. One technical effect of the above differences lies in a higher degree of flexibility, as there are multiple options for forming new groups and assigning new group controllers, for example in response to the failure of an existing group controller.

68. There is no apparent reason why the skilled person would have equipped the controllers in D10 with long-range communication modules, as the gateways take care of the long-range communication with the server. There is also no reason why the skilled person would have set up individual short-range communication networks in each of the groups of controllers in D10, and assigned a group controller for each of those groups, since this would complicate the set up process for the user (or for an automation program). Furthermore, there would have been no reason why certain group controllers should be used exclusively for direct communication with the server, considering the existence of the gateways.

69. Hence, the opponent's objection regarding lack of inventive step in view of D10 is not persuasive, and the subject-matter of claim 1 involves an inventive step (Articles 52(1) and 56 EPC).

Conclusions

70. The patent cannot be maintained as granted (Main Request), because the subject-matter of the claims extends beyond the content of the application as filed (Article 100(c) EPC).

71. Auxiliary Request 0*bis* is not allowable for the same reason of extension of subject-matter as the Main Request (Article 123(2) EPC).

72. Auxiliary Request 1 is not allowable for lack of clarity and an extension of subject-matter (Articles 84 and 123(2) EPC).

73. Auxiliary Request 1*bis* is not allowable for the same reasons of lack of clarity and extension of subject-matter as Auxiliary Request 1 (Articles 84 and 123(2) EPC).

74. Auxiliary Request 1*ter* is not allowable for the same reason of lack of clarity as Auxiliary Request 1 (Article 84 EPC).

75. Auxiliary Request 1*quater* is admitted, and, as none of the objections raised is persuasive, it is allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the Opposition Division with the order to maintain the patent on the basis of

   - the claims of auxiliary request 1*quater*,
   - the drawings of the patent as granted and
   - the description of the patent as granted, to be adapted if necessary.

The Registrar: The Chair:

D. Meyfarth P. Scriven

Decision electronically authenticated