# FEDERAL SUPREME COURT <br> <br> ON BEHALF OF THE PEOPLE 

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## JUDGMENT

X ZR 59/21

Announced on:
June 27, 2023
Zöller
Clerk of the Court as clerk of the court registry
in the patent nullity case

## Reference book: yes

BGHZ: no
BGHR: yes
Display monitor
Patent Act Sec. 81, Sec. 121 (2); Code of Civil Procedure (ZPO) Sec. 93
a) A patent owner gives rise to the filing of a nullity action if, despite being requested to do so, it does not provide the potential nullity plaintiff with a legal position comparable to that after the declaration of nullity of the patent before the action is filed (confirmation of Federal Supreme Court (BGH), judgment of August 13, 2013 - X ZR 73/12, GRUR 2013, 1282 para. 50 - Druckdatenübertragungsverfahren).
b) A prior request on the part of the nullity action plaintiff is not already dispensable because the patent owner has indicated in the course of license negotiations that he will not avoid litigation.

Federal Supreme Court (BGH), Judgment of June 27, 2023 - X ZR 59/21-
Federal Patent Court

The X. Civil Senate of the Federal Supreme Court, at the oral hearing on June 27, 2023, by the Presiding Judge Dr. Bacher, the Judges Dr. Kober-Dehm, Dr. Marx, and Dr. Rombach, and the Judge Dr. Rensen,
found in favor of the defendant:

The appeal against the judgment of the 6th Senate (Nullity Senate) of the Federal Patent Court of March 12, 2021, is dismissed.

The defendant shall bear four-fifths and the plaintiff one-fifth of the costs of the proceedings at first instance.

The defendant shall bear the costs of the appeal proceedings.

By law

## Facts:

The defendant is the owner of the German patent 19854241 (patent in suit), which was filed on November 24, 1998 and concerns the display of images. Claim 1, to which eleven claims are referred back, reads as mainly defended by the defendant (amendments to the granted version are highlighted):

A method of displaying images (A, B, C) reproducible on a display monitor (7), in which digital image data of an examination volume of an object ( O ) are recorded by means of an image recording system (2) of an examination installation, in which method at least two images ( $\mathrm{A}, \mathrm{B}, \mathrm{C}$ ) of the examination volume are simultaneously displayed on the display monitor (7) as projection images or sectional images with any orientation of their image planes relative to one another, at least one marker $(M)$ being displayed in each image, which indicates information about the position of the image plane of one of the other images with respect to the image in which the marking is displayed, wherein the orientation of the image plane of an image ( $\mathrm{A}, \mathrm{B}, \mathrm{C}$ ) and thus the view of the image can be changed with correspondingly adapted display of the markings ( $M$ ), and wherein the change is made by moving the markings $(M)$, in particular shifting or twisting the lines, by means of suitable control means, in particular comprising a control mouse (8).

Claim 13 of the defended version, to which eleven claims are likewise referred back, provides analogous protection for a device suitable for carrying out this method, and claim 25 for a medical examination system comprising an image recording system and this device.

The plaintiff, who is being sued for infringement of the patent in suit, has claimed that the subject matter of the property right is not patentable. The defendant has defended the patent in suit with one main request and nine auxiliary requests in amended versions.

The Patent Court has declared the patent in suit invalid. This is the subject of the defendant's appeal, which defends the patent in suit with its first-instance requests and nine further auxiliary requests. The plaintiff opposes the appeal.

## Reasons for Decision:

The admissible appeal is not well-founded.
I. The complaint is still admissible despite the lapse of the patent in suit.

As the Patent Court correctly assumed, and as the defendant does not question, the plaintiff has the necessary interest in legal protection because it is being sued for infringement of the patent in suit.
II. The patent in suit concerns the display of images on a display monitor.

According to the description of the patent in suit, during medical examinations, for example by means of magnetic resonance equipment, computer tomographs or X-ray equipment, images of an object under examination are recorded and displayed on a monitor.

It is important to provide the user with as much information as possible in a simple way as possible.

On this basis, the patent in suit is based on the technical problem of displaying images on a display monitor in a simple and clear manner.
2. For solution, the patent in suit in the defended version of claim 1 proposes a method, the features of which can be divided as follows (changes compared to the granted version are highlighted):
> 1.1 Method for displaying images (A, B, C) reproducible on a display monitor (7).
1.2 Digital image data of an examination volume of an object (O) is acquired by means of an image acquisition system (2) of an examination facility.
1.3 At least two images ( $A, B, C$ ) of the examination volume are displayed simultaneously on the display monitor (7), namely
1.3.1 as projection images or sectional views
1.3.2 with any orientation of their image planes to each other.
1.4 At least one marker $(M)$ is displayed in each image,
1.4.1 which gives information about the position of the image plane of one of the other images with respect to the image in which the marker is displayed.

### 1.5 The orientation of the image plane of an image ( $A, B, C$ ) and thus the view of the image with correspondingly adjusted display of the markers ( M ) can be changed, namely

1.5.1 by moving the markings ( $M$ ), in particular shifting or rotating the lines by means of suitable control means, in particular comprising a control mouse (8).
3. Some features require further explanation.
a) The subject matter of claims 1,13 and 25 is characterized by the manner in which the images are displayed, despite features that differ in detail. The latter two claims are therefore not subject to a different assessment than claim 1.

Claim 13 provides an image processing device (6) and a display monitor (7) as mandatory components of the apparatus.

This leaves open the way in which the image data used for display is obtained and how it is fed to the processing device.
bb) Claim 25 provides for a medical examination system comprising an image acquisition system and a device according to claim 13.

It does not necessarily follow from this that the two components mentioned are housed in a common housing or are otherwise firmly connected to each other. It is also not clear how the image data is obtained.
cc) According to feature 1.2, the method protected in claim 1 also includes the recording of digital image data suitable for this purpose.

With regard to the design of the examination equipment used for this purpose and the image acquisition system belonging to it, claim 1 also does not contain any more detailed specifications. In particular, the subject matter of this claim is not limited to the imaging systems listed by way of example in the description (X-ray, ultrasound, magnetic resonance, computed tomography, paras. 2, 20).

Claim 1 also does not necessarily require that the examination system also comprise the display device in addition to the image recording system. Rather, it leaves open the path by which the recorded digital image data reaches the display monitor. In this respect, the description also merely provides that the digital images recorded with the image recording system of the examination device are forwarded to a further device (5) with a display monitor (7) (para. 20 f.).
b) Sectional images and projection images within the meaning of feature 1.3.1 represent views from the interior of the object under examination. The patent in suit distinguishes these from surface images which show only the external view of an object (para. 2).
aa) A sectional view as defined in feature 1.3 .1 shows a single plane of the examination volume. It therefore necessarily contains a two-dimensional representation.
bb) In contrast, a projection image as defined in feature 1.3.1 represents information from multiple levels of the study volume.

An example of this is an X-ray image. Its content depends on how strongly the X-rays have been absorbed on their way through the examined object to the image plane shown. However, it is not possible to tell from the representation in which plane the absorption has taken place. Thus, information is displayed that can originate from all planes between the radiation source and the displayed image plane. This is also a two-dimensional representation.

However, claim 1 does not necessarily provide that the projection image is an X-ray image. Rather, it leaves open the method by which the image data are obtained. According to the description, the imaging methods that can be considered include those that represent the recorded volume in several individual layers. With such an image data set, it is possible to represent an exposure in the form of a volume image, for example as a projection image or as a surface image in three-dimensional form (para. 2).

Whether it can be inferred from this that a projection image within the meaning of feature 1.3.1 can also contain a three-dimensional representation is, as will be shown, not relevant for the decision on the legal validity of the patent in suit.
c) A display of at least two images with arbitrary orientation of the image planes to each other according to feature 1.3.2 requires that the image planes can basically be at any angle and with any intersection point to each other.
aa) This is consistent with the embodiment examples in Figures 2 to 7.

In Figure 2 reproduced below, three images ( $\mathrm{A}, \mathrm{B}, \mathrm{C}$ ) are displayed with their planes $(a, b, c)$ perpendicular to each other (par. 4).


Figure 3, reproduced below, shows the representation of three image planes aligned parallel to, but displaced from, the planes shown in Figure 2.


FIG. 3

This also changes the orientation of the image planes compared to Figure 2. The orientation includes not only the angle at which the individual planes are positioned to each other, but also the place where they intersect.

Figures 4 to 6 show representations in which at least one image plane is tilted or rotated obliquely relative to another (paras. 27-29). To a certain extent, this is shown in extreme form in Figure 7 reproduced below. There, none of the three image planes is perpendicular to another (par. 30).


## FIG. 7

bb) Contrary to the opinion of the plaintiff, it is not sufficient against this background if any orientation of the image planes is possible.

In particular, this does not result from the statements in the description that according to the method of the invention, several images are perpendicular to each other, for example (paragraph 6). This introductory description does not conclusively describe the technical solution. Moreover, a perpendicular alignment is given only as an example.

It follows from the wording of feature 1.3.2 and the corresponding examples of embodiments in Figures 2 to 7 that it must be possible in principle to freely select the orientation of the image plane in relation to the planes of the other images for each image. This is confirmed by the statements in the description, according to which the greatest degree of complexity is reached in Figure 7, because all images are oriented arbitrarily in three-dimensional space (para. 30).

This requirement is not satisfied if the orientation of the image plane can be freely selected for only one image. Rather, the possibility of any orientation must exist for each of the at least two images that feature 1.3 provides.
d) The mark ( $M$ ) displayed according to feature 1.4 is characterized in feature 1.4.1 only as indicating information about the position of the image plane of one of the other images with respect to the displayed image.

The nature of this information and the way in which it is presented is not specified.
aa) In Figures 2 to 7, the markings consist of lines indicating the position of the image plane (para. 23) and arrows indicating the viewing direction (para. 24).

The representation by means of lines is described in the description as expedient (para. 7). From this and from the fact that claim 1 does not contain any specifications in this respect, it follows that other types of marking are also possible.
bb) Contrary to the defendant's view, it cannot be inferred from feature 1.4.1 that the information contained in the marking must provide information about the position of the image plane without recourse to additional information.

Also in the embodiments shown in Figures 2 to 7, additional information is required to be able to grasp the meaning of the lines and arrows. In particular, the viewer must know that the color of the lines and the letters attached to them indicate that they represent the image plane of the image marked with the same letter and outlined with the same color (paras. 8, 23). Against this background, a minimum level of information which must already be apparent from the pictorial representation itself cannot be inferred from feature 1.4.1.
cc) Contrary to the defendant's opinion, the number of markings in an image does not necessarily have to correspond to the number of the other images.

According to feature 1.4, it is sufficient if each image contains such a marker. This minimum requirement applies regardless of the number of images displayed, i.e. also to designs in which there is more than one additional image for each image.

A further specification is contained only in claim 2, which mandatorily provides for the display of three images and the reproduction of two markers in each image.
e) The change of orientation provided for in feature group 1.5 shall be possible in each image provided for in feature 1.3.

According to the wording of feature 1.5 , it is sufficient if the orientation of the image plane of "an image" can be changed. However, it follows from the connection with feature 1.3.2, according to which each image provided for in feature 1.3 can have any orientation, that there must be a corresponding setting option for each of these images.

This is not contradicted by the fact that in Figures 3 and 4 only one mark has been changed in each case in comparison with the respective preceding figure. It follows from the context of the embodiments that such changes must be possible successively in each of the images concerned, and in principle in any order.
III. The Patent Court gave the following main reasons for its decision:

The subject-matter of claim 1 as mainly defended was not new compared to the PCT application published as WO 98/16903 A1 (NK21). The citation shows a method for displaying images. The display monitor shows simultaneously at least two images as sectional images and a projection image. The image planes could be selected orthogonally and obliquely and displayed with any orientation and angular position relative to each other. In each image at least one marker is displayed, which gives information about the position of the image plane. These could be moved by drag and drop to another place of an image, whereby the orientation of the image plane changed.

Even if NK21 were to allow only one oblique image plane, to which the planes of the other images are orthogonally aligned in each case, the skilled person, a graduate computer scientist, graduate physicist or graduate engineer in electrical engineering with professional experience in the field of displaying (threedimensional) images from medical examinations, would apply the technical teaching of oblique image display disclosed in NK21 because of its advantages not only for a single sectional image, but also for further sectional planes.

Subclaims 2 to 12 in the mainly defended version had no patent-granting features. The display of three views on a display monitor with respective markings provided for in subclaim 2 was disclosed in Figure 16 of NK21. Insofar as subclaim 3 states that different markings are used depending on the position of the image planes, this is within the scope of the skilled person's skill in the art and must also be disregarded as not being technical. The fact that the markings, as provided according to subclaims 4 and 5 , are executed as lines running essentially over the entire image already follows from Figure 16 of NK21. There the teaching of subclaims 7 and 8 is also anticipated, according to which a particular color is assigned to each image as an identifier which is taken up in the marking of another image. The use of solid and broken lines provided for in subclaim 6 is apparent from the technical knowledge; the same applies to the indication of the viewing direction by an additional marking taught in subclaim 9. That a trackball is to be used as a control element, as provided in subclaim 10, is disclosed in NK21. The features of subclaims 11 and 12 were also anticipated in NK21, which provided that the skilled person select between the exclusive display of sectional images or a three-dimensional image as well as mixed forms of sectional images and threedimensional images.

The subject matter of auxiliary request 1 is disclosed in NK21, according to which Figure 16 shows that the number of lines in the respective images corresponds to the number of the other sectional images. Furthermore, NK21 discloses the modification of two markings in the form of lines solely by moving them according to auxiliary requests 2 to 4 as well as 6 . In auxiliary request 5 , no technical difference to auxiliary request 4 is discernible.

The auxiliary request 9 submitted during the oral proceedings had to be rejected as being out of time.

The subject-matter of claim 1 as amended by auxiliary requests 7 to 9 was inadmissibly extended. The fact that the Exhibit could be designed as an Xray C -arm system was not originally disclosed.

The subject-matter of the subsidiary device claims and the sub-claims referred back to them, which are numbered as claims 13 to 25 in the mainly defended version, are subject to the same assessment.
IV. This assessment withstands appellate review as a result.

1. However, the Patent Court wrongly considered the subject matter of claim 1 defended by the main request as fully disclosed by NK21.
(a) NK21 relates to the display of images on a display device coupled to a computer.
aa) According to the description of NK21, medical imaging devices generate volume images which are displayed three-dimensionally by means of volume rendering techniques with division of the examination object into volumetric building blocks (voxels) (p. 1 line 10 et seq.; p. 3 line 3 et seq.). Since different variables have to be set depending on the object under examination ( $p$. 4 line 24 et seq.), a simple operation of the volume rendering tool is advantageous (p. 5 line 16 et seq.).

To this end, NK21 proposes to transmit the images captured by an image acquisition system, for example, via a network to an Advanced Diagnostic Viewer (ADV) (p. 11 line 28; p. 12 lines 4-6; p. 13 lines 2-8), on whose monitor the views of the images can be refined (p. 6 line 15 et seq.; p. 10 line 4).
bb) An exemplary view is shown in Figure 13 reproduced below.


Using the controls at the top left of the screen, different numbers of subwindows with different views can be displayed. In the example shown, four subwindows are displayed showing a three-dimensional image (314) and three twodimensional multiplanar reformatting (MPR) views $(310,312,316)$ ( $p .25$ lines 2025). The latter represent slices through the three-dimensional image volume ( p . 29 Z. 31 et seq.). For the three-dimensional image, the transparency can be set via a menu (288) (p. 34 lines 7 et seq.; p. 35 lines 19 et seq.).

Alternatively, nine subwindows are available for displaying nine MPR views (p. 25 lines 18-19), five subwindows with two three-dimensional (interior view,
exterior view) and three MPR views (p. 26 lines 3 et seq.; Fig. 15), and a single subwindow with one three-dimensional view (p. 25 lines 26 et seq.; Fig. 14).
cc) The viewing plane of the three-dimensional images (314) can be shifted by moving the mouse after pressing the left mouse button, which causes, for example, a circular rotation around an axis (p. 26 Z .27 et seq.).

Which orientation is indicated is shown by four axes labeled $A, P, S$, and I (anterior, posterior, superior, inferior) (p. 27 lines 13-25).
dd) For the two-dimensional MPR views, a check box (oblique check box) (298) can be used to switch between two different display modes.

If the check box (298) is not activated, the same three viewing planes (sagittal, coronal and horizontal) are always displayed in the three MPR views of Figure 13, regardless of the orientation of the three-dimensional view (p. 28 lines 7-11; p. 37 lines 12-18).

If the check box (298) is activated, changes in the orientation of the three-dimensional view lead to a corresponding change in the orientation in the two-dimensional views (p. 21 lines 25-27; p. 37 lines 19-26). Changes in orientation in the two-dimensional views are indicated with axis indicators similar to the indicators $(336,338,340,442)$ of the three-dimensional view (p. 29 lines 4-7).
ee) Each MPR view represents a slice or cross-section of the threedimensional volume. One embodiment allows the user to switch from any twodimensional MPR view from a slice on the plane of the screen or the two planes
perpendicular to it to any other slice, even if they are not adjacent (p. 30 lines 24 and lines 30 f.; p. 31 lines 2-5).

For this purpose, each MPR view has a colored frame representing one of the three planes ( p .30 lines 9-12) and a crosshair of horizontal and vertical lines (352, 354; 356, 358; 360, 362; p. 30 lines 12-22). This is exemplarily shown in figure 16 reproduced below.


The color of the lines matches the border color of the view that displays the corresponding layer. Thus, lines 352 and 362 have the same color as the border of subwindow 348; lines 354 and 358 have the same color as the border of subwindow 350; and lines 356 and 360 have the same color as the border of subwindow 346 (p. 30 lines 22-27).

To change the plane, the user activates a button (272). Then he can move the line of a crosshair by pressing the right mouse button. This will change the view in the subwindow whose frame has the same color as the moved line. To change two MPR views at once, the intersection of the two lines with the corresponding color can be moved (p. 30 lines 28 et seq.).
b) Features 1.1 to 1.3 .1 and 1.4 are thus disclosed.
c) In contrast, features 1.3.2 and 1.5 are not fully disclosed.
aa) In the mode with unchecked check box (298), feature 1.3.2 is disclosed with respect to the three-dimensional view. However, there is no disclosure of this feature with respect to the other subwindows.

If the check box (298) is not selected, a change in the orientation of the three-dimensional view does not lead to changes in the two-dimensional representations. This means that the three-dimensional representation can be displayed in any orientation to the planes of the other representations, as provided by feature 1.3.2. A corresponding change in the other three subwindows, on the other hand, is not possible because they always have the same orientation in this mode.
bb) For the mode with activated check box (298) nothing else applies in the result.

The orientation of the two-dimensional images can be changed in this mode. However, it depends on the orientation of the three-dimensional image. This means that there is no arbitrary setting option for all windows.
cc) The possibility provided for both modes of operation to shift the MPR views so that every other layer is visible does not lead to a different assessment.

The above explanations of this function only indicate that the crosshair lines on the plane of the screen and the two planes perpendicular to it can be shifted in order to display a different plane in (at least) one MPR layer. It is not immediately and clearly clear from this that the orientation of individual MPR views can also be changed in such a way that they are no longer orthogonal to the other views.

This also applies if the origin of the crosshairs is moved obliquely. This also only results in a corresponding adjustment of the orthogonal views.
dd) No further disclosure content arises from the claim 59 formulated in NK21.

Claim 59 provides that each two-dimensional view shows a different oblique view plane.

This requirement is also fulfilled if the orientation of the individual planes is in a fixed relationship to each other. It cannot be inferred from the abstract formulation in claim 59 that it should furthermore be possible to change each view plane independently of the other.

The fact that claim 59 refers back to claim 56 also stands in the way of a more far-reaching understanding. The latter provides for the representation of a three-dimensional view and three interrelated two-dimensional views. This
corresponds to the embodiment also described in the description, according to which the orientation of the two-dimensional views follows that of the threedimensional view, i.e. cannot be changed independently of the latter.
ee) No further conclusions follow from claim 66.

Claim 66 provides that moving a crosshair line changes the twodimensional view in the sub-window outlined with the same color.

This formulation ties in with the already pointed out explanations in the description, from which, for the reasons mentioned, it clearly follows only that it is possible to move the lines and thus to select the displayed layer, but not that it is possible to change the orientation. Even if the wording in claim 66 is kept more abstract, it cannot be inferred with the necessary clarity against this background that the claimed system has further functions not disclosed in the description.
ff) From the explanations in the description, in which the oblique display possibility is generally listed as a possibility (e.g., p. 23 lines 4 et seq., 10 et seq.; p. 26 lines 24-26; p. 36 lines 23 et seq.), no further disclosure content results either.

Again, these embodiments do not contain any direct and unambiguous references to additional functions beyond those described in connection with Figures 13 and 16.
gg) The reference that the control elements are individually adjustable in order to be able to examine the views of the image in the best
possible way (p. 41 lines 12 et seq.) refers to the examples of embodiments described on the basis of Figures 13 to 21. It is also not immediately and unambiguously clear from this that there are additional setting options.
hh) The reference that the user can change the thickness of a displayed layer and in this way transform two-dimensional MPR views into threedimensional transparent images (e.g., p. 37 lines 29 et seq.; p. 35 lines 19 et seq.) also does not immediately and unambiguously indicate that the orientation of the MPR views can be changed independently of the orientation of the threedimensional view.
2. However, the Patent Court rightly concluded that the subject matter of claim 1 defended by the main request was obvious starting from NK21.
a) The various indications in NK21 that the user should have as many setting options as possible gave reason to look for useful additions to the functions described in NK21.

The visual controls disclosed in NK21 are presets that can be changed by the user to provide the best possible view of the image (p. 41 lines 12 et seq.). These views are optionally changeable (p. 36 lines 23 et seq.).

Even if these indications do not directly and unambiguously indicate a possibility of change in the sense of features 1.3.1 and 1.5, they do suggest that NK21 does not envisage a closed system that should remain as unchanged as possible.
b) Among the additional functions that suggested themselves starting from this is the possibility to change not only the displayed layer by
moving the axes, but also to enable an oblique orientation of individual MPR views.

An oblique orientation of a two-dimensional MPR view is generally mentioned as a user-adjustable variant in numerous places (e.g. p. 23 lines 4 ff ., 10 ff.; p. 26 lines 24-26; p. 36 lines 23 ff.). Also, the changeability of only one view is addressed, which is supposed to be manipulable independently of the others (for example, p. 23 Z. 10 et seq.; p. 41 Z. 16-18).

The automatic adjustment of the MPR views to the orientation of the three-dimensional view revealed in NK21 when the check box (298) is active may be sufficient or offer advantages in many constellations. With the possibility to deactivate this function by means of the check box (298), however, NK21 shows that in other constellations it may make more sense if changes in one subwindow do not automatically lead to a change in other subwindows.

Against the background shown, these references to the most flexible possible design of the visual control elements are sufficient as a suggestion even if the orthogonal arrangement of three views was, as the defendant believes, an established state of the art. NK21 shows that an individual setting option can be advantageous in individual cases.
3. Likewise, the Patent Court was correct in considering the subject matter of the subclaims defended by the main request to be unpatentable.
a) Claim 2 provides that three images ( $\mathrm{A}, \mathrm{B}, \mathrm{C}$ ) are displayed on the display monitor $(7)$ and that two markings $(\mathrm{M})$ concerning the image plane position of the other two images are displayed in each image.

The Patent Court was correct in considering this interpretation to be obvious on the basis of NK21.

As explained above, the embodiment described in NK21 allows the user to vary the number of sub-windows displayed. Based on this, it was obvious to optionally allow the display of exactly three views.

In view of this, it can remain open whether claim 2 necessarily precludes the display of more than three images.
b) Claims 3 and 6 provide (with varying degrees of concreteness) that a first mark is used when the image planes are perpendicular to each other, and a second mark is used when the image planes are at a different angle to each other.

The Patent Court rightly considered this design to be obvious because NK21 does not contain any conclusive specifications with regard to the manner in which the markings are displayed and there was reason to make the markings as meaningful as possible.
c) The features provided in claims 4 and 5, that lines are displayed as markings running over substantially the entire image, are disclosed in NK21, as also not doubted by the appeal.
d) Claim 7 provides that a specific identifier is assigned to each image and that the marker belonging to this image in other images also has this identifier. According to claim 8, a color is to be used as the identifier.

These embodiments are also disclosed in NK21.
e) Claim 9 provides an additional marking indicating the direction of gaze.

The Patent Court rightly considered such a marking to be obvious because drawings often contain indications of the direction of view.
f) According to claim 10, the change of the image plane orientation shall be performed by means of a trackball.

This operating element is disclosed in NK21, as the appeal does not dispute.
g) According to claim 11, volume images are to be reproduced in the form of projection images or sectional images. Claim 12 additionally provides that the type of display for each image is arbitrarily selectable.

In any case, such a design was obvious on the basis of NK21.
In NK21, only the selection between individual display types is explicitly described. However, the references in various places to offering the user as many selection options as possible gave reason to provide additional individual setting options in this respect as well.
4. The subject matter defended by the auxiliary requests is also not patentable.
a) According to auxiliary request 1, claim 1 shall be amended or supplemented as follows:
1.4 At least one marker $(M)$ is displayed in each image ( $A, B, C$ ),
1.4.1 each giving information about the position of the image plane of one of the other images $(B, C)$ with respect to the image $(A)$ in which the marker is displayed.

# 1.4.2 The number of marks $(M)$ corresponds to the number of remaining images ( $B, C$ ). 

This embodiment is disclosed in NK21, as the Patent Court correctly pointed out.

The three MPR views shown in Figure 16 each contain two markers representing the position of the image plane in the other two views.

The fact that there is also a subwindow with a three-dimensional view does not lead to a different assessment. Such a design is not excluded by auxiliary request 1 .
b) After auxiliary requests 1 a to 9 a , the requests of corresponding numbering shall each be modified so that in feature 1.3 the words "projection images or sectional views" are replaced by "sectional views".

This modification does not lead to a different assessment.

The display of multiple sectional views is disclosed in NK21. Even if the auxiliary requests were to be understood as meaning that the display of other views is not permitted, this would be an obvious variant based on the setting options shown in NK21.
c) Auxiliary request 2 provides, in addition to auxiliary request 1, that the change of orientation is effected solely by moving the markers.

Such a design was also suggested on the basis of NK21 for the reasons already stated in connection with the main motion.
d) According to auxiliary request 3 , the version of claim 1 defended by the main request is to be supplemented by the additional features from claims 2 and 4.

This embodiment was also obvious in its combination for the reasons already pointed out in connection with the above subclaims.
e) According to auxiliary request 4, patent claim 1 as amended by auxiliary request 3 should be amended in feature 1.5.1 as follows:
1.5.1 solely by moving the markings (M), in particular in the form of shifting or twisting the lines by means of suitable control means, in particular comprising a control mouse (8).

The Patent Court correctly considered this embodiment to be disclosed in NK21.
f) According to auxiliary request 5, patent claim 1 in the version of auxiliary request 4 is to be modified in feature 1.2 such that the words "in which" are replaced by "wherein". Furthermore, the claims previously directed to the protection of a device for processing and reproducing digital images are now directed to the protection of a medical examination system comprising, in addition to said device, an image recording system.

These changes do not lead to a different assessment, as the Patent Court rightly pointed out.

The amended wording in claim 1 does not indicate any change in substance.

The combination of a device for processing and reproducing digital images with a recording system was already obvious because processing and reproduction is only possible if image data are available. More detailed specifications as to how the individual components are connected to each other are also not provided in auxiliary request 5 .
g) According to auxiliary request 6, patent claim 1 in the version of auxiliary request 5 is to be supplemented by the additional features from patent claims 4 and 5.

This combination is also not patentable for the reasons stated in connection with the above subclaims.
h) According to auxiliary request 7, patent claim 1 in the version of auxiliary request 6 is to be supplemented to the effect that the digital image data are recorded by means of an X-ray C-arm system.

This design is also suggested on the basis of NK21.
It can be seen from NK21 that the type of imaging system used is in principle not of decisive importance. In view of this, it was obvious to also present the image data obtained with a C-sheet in the manner disclosed or suggested in NK21.
i) According to auxiliary request 8, patent claim 1 as amended by auxiliary request 7 should be modified in feature 1.3 .1 as follows:
1.3.1 As projection images or sectional views generated from a volume image.

This embodiment is disclosed in NK21. There, layers with adjustable thickness can be generated from a volume image. This also includes twodimensional representations.
j) According to auxiliary request 9, claim 1 as amended by auxiliary request 8 should be modified as follows:
1.3.1 as projection images or sectional images generated from a volume image, two-dimensional, not threedimensionally represented in perspective.
1.4.2 Three images (A, B, C) with any orientation of all their image planes to each other are displayed on the display monitor (7).
1.5 The orientation of the image plane of an image ( $\mathrm{A}, \mathrm{B}, \mathrm{C}$ ) and thus the view of the image (A) with correspondingly adapted representation of the markings $(M, b, c)$ in the image (A) can be changed, namely
1.5.1 solely by moving the marks $(M, a)$ in one of the other images ( $B, C$ ), in the form of shifting or twisting the lines by means of suitable control means, in particular comprising a control mouse (8).

This selection among the display options considered on the basis of NK21 was also suggested for the reasons already outlined above.
V. The decision on costs is based on Sec. 121 (2) Patent Law and Sec. 97 (1), Sec. 93 and Sec. 92 (1) Code of Civil Procedure (ZPO).

1) Contrary to the opinion of the Patent Court, the plaintiff has to bear part of the costs of the first instance pursuant to § 93 Code of Civil Procedure (ZPO).
a) According to the case law of the Senate, the application of Section 93 Code of Civil Procedure (ZPO) in patent nullity proceedings is particularly possible if the defendant, who did not give rise to the complaint, defends the property right only in a limited version and waives the additional protection for the past and the future (Federal Supreme Court (BGH), judgment of 8. December 1983 - X ZR 15/82, GRUR 1984, 272, 276 - Isolierglasscheibenrandfugenfüllvorrichtung; judgment of August 13, 2013 - X ZR 73/12, GRUR 2013, 1282 para. 47 - Druckdatenübertragungsverfahren).

The defendant in the dispute has already made such a statement in its partial opposition.

In this writ, the defendant, contrary to the Patent Court's statements, not only defended the patent in suit in a restricted version - which would not be sufficient in itself (cf. Federal Supreme Court (BGH), judgment of November 20, 2018 - X ZR 17/17, para. 32). Rather, it made a supplementary declaration to waive the protection beyond that with effect for the past. It was and is bound by this waiver. The fact that the defendant declared the waiver only for the past is harmless because the patent in suit had already expired at the time of the declaration and the defendant expressly stated this as the reason for limiting the declaration to the past.
b) Insofar as the defendant has not defended the patent in suit, it has not given cause to file a nullity action.
aa) A patent owner gives rise to a nullity action if, despite being requested to do so, it does not provide the potential nullity plaintiff with a legal position comparable to that after the patent has been declared invalid before the action is filed (Federal Supreme Court (BGH), judgment of August 13, 2013 - X ZR 73/12, GRUR 2013, 1282 para. 50 - Druckdatenübertragungsverfahren).

Such a request is missing in the case in dispute.
bb) As the Patent Court correctly assumed in its approach, a prior request may be dispensable if it can be assumed due to special circumstances that the patent owner will not respond to the request.

Contrary to the Patent Court's opinion, the license negotiations preceding the nullity action in the dispute did not give any reason to assume this.

From the plaintiff's submissions at first instance and the correspondence submitted, it can be seen that the defendant took objections raised by the plaintiff
as an opportunity to base its unchanged license claim on a different reason. From this and from the defendant's reference to the high costs of a legal dispute, it may have been inferred that the defendant would not avoid a legal dispute.

However, this did not yet give sufficient reason to assume that the defendant would defend the patent in suit as granted. It is clear from the plaintiff's description and the correspondence submitted that the defendant had not yet dealt with detailed legal questions at that stage. This did not exclude the possibility that it would at least limit its defense of the patent in suit in response to a specific request.
2. The defendant alone must bear the costs of the appeal instance pursuant to Sec. 97 (1) Code of Civil Procedure (ZPO), because only the restricted versions of the patent in suit were still to be decided.

| Bacher | Kober-Dehm |
| :---: | :--- |
| Judge at the Federal Supreme Court <br> Dr. Marx cannot sign due to <br> vacation |  |
| Bacher |  |

Rombach
Rensen

Lower court:
Federal Patent Court, decision dated 12.03.2021-6 Ni 4/20-

