

Local Chamber Munich UPC_CFI_114/2024 UPC_CFI_448/2024

Decision

of the Court of First Instance of the Unified Patent Court Local Chamber Munich

delivered on 10 October 2025

- Version for publication -

Headnote:

In the absence of specific provisions in the UPCA, national law must be applied to answer the question of the binding effect of a final judgment dismissing a national action for annulment pursuant to Art. 24.1(e) UPCA.

Keywords:

Conflicting legal force of a national nullity judgment; private prior use rights in DE, FR, IT, RO.

PLAINTIFF

Heraeus Electronics GmbH & Co. KG

Heraeusstraße 12-14 - 63450 - Hanau

represented by: Paul Szynka (CBH)

DEFENDANT

Vibrantz GmbH

Gutleutstraße 215 - 60327 - Frankfurt am Main

represented by: Christian Paul (JONES DAY)

PATENT IN DISPUTE

European Patent No. 3 215 288

APPELLATE BODY/CHAMBER

Panel 1 of the Munich Local Chamber

PARTICIPATING JUDGES

This decision was made by Presiding Judge Dr Matthias Zigann as rapporteur, legally qualified judges Edger Brinkman and Tobias Pichlmaier, and technically qualified judge Dr Graham Ashley.

LANGUAGE OF PROCEEDINGS

German

SUBJECT

Infringement action – ACT_13227/2024 UPC_CFI_114/2024 Counterclaim for revocation – CC_43919/2024 UPC_CFI_448/2024 Request for amendment of the patent – App_2370/2025 UPC_CFI_448/2024 Request for a decision on the existence of an absolute ground for non-admissibility (Rule 362 of the Rules of Procedure) – App_2369/2025 UPC_CFI_448/2024

DATE OF ORAL PROCEEDINGS

1 July 2025

FACTS

The applicant is a company incorporated under German law which is active in the field of research, development and distribution of material solutions in assembly and connection technology, in particular in connection with adhesives, metal-ceramic substrates and sintering pastes.

The plaintiff is the registered owner of European Patent 3 215 288 B1, which was filed on 8 May 2015 with priority from

priority of 3 November 2014 (EP 14191408). The publication and announcement of the reference to the patent grant took place on 29 August 2018. Previously, the plaintiff's legal predecessor, Heraeus Precious Metals GmbH & Co. KG, was registered as the patent holder.

The patent is in force in several European countries, including the Federal Republic of Germany, the French Republic, the Italian Republic and Romania.

Claims 1 to 9 read as follows in the above-mentioned territories, excluding the Federal Republic of Germany, in the language of grant:

1. Metal sinter preparation comprising (A) 50 to 90% by weight of at least one metal selected from the group consisting of copper, silver, gold, nickel, palladium, platinum and aluminium, which is present in the form of particles having a coating containing at least one organic compound selected from the group consisting of free fatty acids, fatty acid salts and fatty acid esters, and (B) 6 to 50% by weight of one or more organic solvents selected from the group consisting of terpineols, N-methyl-2-pyrrolidone, ethylene glycol, dimethylacetamide, 1-tridecanol, 2-tridecanol, 3-tridecanol, 4-tridecanol, 5-tridecanol, 6-tridecanol, isotridecanol, unsubstituted 1-hydroxy-C16-C20-alkanes with the exception of methyl substitution on the penultimate C atom, dibasic esters, glycerine, diethylene glycol, triethylene glycol and aliphatic hydrocarbons with 5 to 32 C atoms,

characterised in

that the mathematical product of the tamped density, determined in accordance with DIN EN ISO 787-11: 1995-10, and the specific surface area, determined in accordance with DIN ISO 9277: 2014-01, of the metal particles of component (A) is in the range from 40,000 to 80,000 cm $^{-1}$.

- 2. Metal sinter preparation according to claim 1, wherein the mathematical product of the tamping density, determined in accordance with DIN EN ISO 787-11:1995-10, and the specific surface area, determined in accordance with DIN ISO 9277:2014-01, of the metal particles of component (A) is in the range of 50,000 to 70,000 cm ⁻¹.
- 3. Metal sintered preparation according to claim 1 or 2, comprising one, two or more different types of metal particles.
- 4. Metal sinter preparation according to one of the preceding claims, wherein the metal particles have the form of flakes or an irregular shape.
- 5. Metal sintering preparation according to one of the preceding claims, containing, in addition to components (A) and (B) 0 to 12 wt.% of at least one metal precursor (C), 0 to 10 wt.% of at least one sintering aid (D) and 0 to 15 wt.% of one or more further ingredients (E) selected from dispersants, surfactants, defoamers, binders, polymers and/or viscosity-controlling agents.
- 6. Method for joining components, in which (a) a sandwich arrangement is provided which comprises at least (a1) a component 1, (a2) a component 2 and (a3) a metal sintering preparation according to one of the preceding claims, which is located between component 1 and component 2, and (b) the sandwich arrangement is sintered.
- 7. Method according to claim 6, wherein at least one of the components 1 and 2 has an aluminium or copper contact surface over which the sandwich assembly is formed.
- 8. Method according to claim 6 or 7, whereby sintering is carried out under pressure or without pressure.
- 9. Method according to one of claims 6 to 8, wherein the components are parts used in electronics.

The German part of the contested patent was upheld with the following claims 1 to 8, which are now legally binding, in a ruling by the Federal Patent Court on 7 November 2023 (emphasis corresponds to the official wording of the ruling):

1. <u>Use of a metal sintering preparation for permanently joining components, wherein the metal sintering preparation</u> (A) comprises 50 to 90 wt% of at least one metal selected from the group consisting of copper, silver, gold, nickel, palladium, platinum and aluminium, which is present in the form of particles, wherein the metal particles have the form of flakes or an irregular shape, wherein the metal particles have a coating which contains at least one organic compound selected from the group consisting of free fatty acids, fatty acid salts and fatty acid esters, and (B) 6 to 50% by weight of one or more organic solvents selected from the group consisting of terpineols, N-methyl-2-pyrrolidone, ethylene glycol, dimethylacetamide, 1-tridecanol, 2-tridecanol, 3-tridecanol, 4-tridecanol, 5-tridecanol, 6-tridecanol, isotridecanol, unsubstituted 1-hydroxy-C16C20-alkanes with the exception of methyl substitution on the penultimate C atom, dibasic esters, glycerine, diethylene glycol, triethylene glycol and aliphatic hydrocarbons with 5 to 32 C atoms,

characterised in that

the mathematical product of the tamping density, determined in accordance with DIN EN ISO 787-11: 1995-10, and the specific surface area, determined in accordance with DIN ISO 9277: 2014-01, of the metal particles of component (A) is in the range from 4000050000 to 80000 cm⁻¹.

- 2. <u>Use of</u> a metal sinter preparation according to claim 1 <u>for firmly joining components</u>, wherein the mathematical product of tamping density, determined in accordance with DIN EN ISO 787-11: 1995-10, and specific surface area, determined in accordance with DIN ISO 9277: 2014-01, of the metal particles of component (A) is in the range from 50000 to 70000 cm ($^{-1}$).
- 3. <u>Use of a metal sinter preparation according to claim 1 or 2 for firmly joining components, comprising one, two or more different types of metal particles.</u>
- 4. Metal sintering preparation according to one of the preceding claims, wherein the metal particles have the form of flakes or an irregular shape.
- 54. <u>Use of a metal sintering preparation according to one of the preceding claims for firmly joining components, containing, in addition to components (A) and (B), 0 to 12 wt.% of at least one metal precursor (C), 0 to 10 wt.% of at least one sintering aid (D) and 0 to 15 wt.% of one or more further ingredients (E) selected from dispersants, surfactants, defoamers, binders, polymers and/or viscosity-controlling</u>

agents.

65. Method for joining components, in which (a) a sandwich arrangement is provided which comprises at least (a1) a component 1, (a2) a component 2 and (a3) a metal sintering preparation according to one of the preceding claims, which is located between component 1 and component 2, and (b) the sandwich arrangement is sintered.

76. Method according to claim 65, wherein at least one of the components 1 and 2 has an aluminium or copper contact surface over which the sandwich arrangement is made.

87. Method according to claim 65 or 76, wherein sintering is carried out under pressure or without pressure.

98. Method according to one of claims 65 to 78, wherein the components are parts used in electronics.

The defendant is a company under German law that is in direct competition with the plaintiff and manufactures all kinds of coating chemicals at various locations in Germany. During the nullity proceedings before the Federal Patent Court, it became the legal successor to the plaintiff in that case,

It markets

- "customised Ag paste; especially designed for metallisation for chip bonding at low temperature" and
- "Low Temperature Sintering Silver Paste"

.

HISTORY OF THE PROCEEDINGS

By order of 2 December 2024 (App_55548/2024), corrected by order of 26 February 2025 (ORD_9486/2025), the court also allowed the extension of the infringement action to include claims relating to the newly added contracting member state of Romania, as well as the corresponding extension of the counterclaim for annulment. The subsequent extension of the action to include claims for infringement of the procedural right was not objected to. Furthermore, Heraeus Precious Metals GmbH & Co. KG was replaced by its legal successor, Heraeus Electronics GmbH & Co. KG.

ARGUMENTS OF THE PARTIES

Interpretation

The defendant objects to the feature "for a fixed connection". not defined by the contested patent. Therefore, everything must be considered

"fixed" that cannot be removed without losing its strength.

The plaintiff responds by referring to various passages of the contested patent, arguing that on this basis, a person skilled in the art would readily be able to assign a technically and functionally meaningful, consistent and clear understanding to the claim feature of a connection specified as "fixed".

Infringement

The plaintiff claims, with reference to various measurements it has taken, that the mathematical product of the specific surface area and the tamping density of the solid content of the contested embodiment corresponds to the mathematical product specified in the claim and that the defendant must be held responsible for the use of these pastes by its customers for the firm connection of components.

The defendant argues that the contested embodiments do not make use of the feature "use for permanently bonding components". Furthermore, the contested embodiments do not make use of the feature "permanent", as they are only intended for "normal bonding of components at low temperatures". They are also not suitable for this purpose.

Right of prior use

The defendant further asserts a private right of prior use. For example, sintering paste 6380 0015 from October 20 , is documented. The same SF 30 and SF 70A silver flakes were used for these sintering pastes as

subsequently used in production and are still in use today. Furthermore, the product "NTV-Paste Siebdruck" was already delivered to a customer in 2009. In addition, the product

"6380 0015 Ag suspension" was manufactured at the Hanau site for another customer. In 2013, a sample of the 6380 0025 sintering paste was delivered to a French customer.

Malice and unlawful removal

In addition, with reference to email correspondence from October and December 2009 between the defendant and the a company belonging to the patent holder that the series, the defendant asserts, in addition to the private right of prior use, the objection of fraudulent intent and unlawful appropriation. The defendant points out that the document discusses the use of silver flakes SF 30 and lists the material properties of the silver flakes in detail. The document shows that the defendant supplied the products to the plaintiff. Two of the addressees were later named by the patent holder and plaintiff as two of the alleged inventors of the patent in suit.

Counterclaim for revocation – admissibility

The plaintiff argues that the continuation of the proceedings with regard to the counterclaim for revocation is precluded by the final judgment of the Federal Patent Court of 7 November 2023. The mere fact that the court and the national courts have parallel jurisdiction during the transitional period pursuant to Art. 83 (1) UPCA clearly does not affect the principle of res judicata with regard to the same subject matter of the dispute. It also seems unacceptable that the mere special situation of the transitional phase pursuant to Art. 83 UPCA and the associated

Parallel jurisdiction of the EPG and of the "regular" national courts, the principle of res judicata would be rendered ineffective.

R. 362 RoP explicitly recognises the principle of res judicata. The principle of res judicata is also a fundamental legal principle in all contracting Member States. Pursuant to Art. 2 UPCA, the court is a common court of the contracting Member States and is subject to the same obligations under EU law as any national court. The Court is also a common court of the Contracting Member States within the meaning of Article 71a of the Brussels I Regulation. The recognition of decisions relating to the Court is therefore governed by Article 71d of the Brussels I Regulation. However, the recognition of decisions of the BPatG (court of a Contracting Member State) by the Court (common court of the Contracting Member States) is not governed by Article 71d(1)(a) or (b) of the Brussels I Regulation, nor, in particular, by Article 71d(2) of the Brussels I Regulation (the latter only concerns the reverse relationship).

Rather, it follows from the basic principle of Article 71a of the Brussels I Regulation that the court, as the common court of the contracting Member States – and thus "also" the German court – naturally recognises the decisions of its equivalent national courts with parallel jurisdiction within the meaning of Article 83 of the UPCA. It therefore depends on the other sources of law specified in Article 24(1) of the EPC. The EPC itself does not contain any explicit provisions on legal force; the same applies to the EPC and any international agreements. This leaves two issues: Firstly, at the level of Article 24(1)(b) EPC, Rule 362 of the Rules of Procedure is to be interpreted by the court – but not autonomously within the meaning of EU law. If the court were to conclude that R.362 RPC is unclear or only regulates the legal consequences but not the principle of res judicata itself, the court would have to apply national law, in this specific case German law and § 325 (1) ZPO, in accordance with Art. 24

(1) lit. e) UPCA, the court shall apply national law, in this specific case German law and § 325 (1) ZPO.

Furthermore, the plaintiff defends the contested patent uniformly for all contracting member states involved in the proceedings in the version of auxiliary request 3 submitted with Annex NiB 23 to the request for amendment of the patent dated 14 January 2025, in accordance with the version upheld by the Federal Patent Court.

This entails a restriction for all Contracting Member States subject to the proceedings except Germany.

The defendant argues that R. 362, 363(1) RoP merely allow the court to decide that the continuation of the proceedings is precluded by an "absolute bar" to the continuation of the proceedings. R. 362 RoP thus refers to an "absolute" — i.e. universally applicable — bar to the proceedings and is therefore distinct from merely "relative" procedural bars, where the bars only exist between the parties concerned, and substantive bars (such as the statute of limitations).

On the other hand, it does not cover decisions of the courts of the Member States which, although legally binding under the respective lex fori of the Member State, have not invalidated the patent in question in its entirety and are therefore still subject to further decision by the EPO on the basis of the EPC. In this respect, a decision by a Member State court has no "absolute" effect on the continuing part vis-à-vis anyone. This is justified by the fact that the UPCA grants the court retroactive and unrestricted exclusive jurisdiction over attacks on legal validity, applying the uniform provisions of the UPCA to all European bundle patents that "have not yet expired at the time of entry into force of this Agreement", Art. 2(e), 3(c), 32 EPC. The jurisdiction of the court therefore extends, irrespective of

previous proceedings between the parties, even if they had already been the subject of national nullity proceedings (which may have been legally concluded) but continued to exist despite such proceedings.

The EPO is therefore not prevented, in any event, from ruling on the legal status of the respective patent in new nullity proceedings against the same parties to the previous national proceedings, as a result of its mandate, in relation to proceedings that had already been decided or were pending before the entry into force of the EPC. In accordance with this, Article 83(1) EPCU regulates the parallel jurisdiction of the Court and the courts of the Member States during the transitional phase, whereby only an opt-out by the patent proprietor can be invoked against an action before the Court, Article 83(3) EPCU. It is therefore up to the patent proprietor to decide whether to opt out and thus accept the risk of a renewed review based on the provisions of the EPC, which have entered into force retroactively. It is irrelevant whether an action for revocation is brought by a revocation claimant in a previous national revocation proceeding or by a new claimant. Otherwise, an effective attack on the legal status before the court would depend solely on the coincidence of whether the plaintiff in the national nullity proceedings had other companies or other straw men at its disposal to bring an action before the court. However, the EPCU clearly does not make effective enforcement of the agreed provisions dependent on such arbitrary circumstances, but pursues the goal of uniform new regulations and decisions by the court, even with regard to decisions already handed down by the courts of the member states, in the sense of a comprehensive decision on infringement and legal status based on the uniform application of the provisions of the EPCU.

Based on this understanding, the decision of the Federal Patent Court is not a legally binding decision in the sense of an absolute procedural obstacle pursuant to Rule 362 of the Rules of Procedure, which is also confirmed by the following example: If there were a final decision by a court of one of several relevant Member States and the court considered the disputed patent to be infringed, but the court did not consider the infringement to be a legal obstacle to the proceedings, the

confirmed by the following example: If there were a legally binding decision by a court of one of several relevant Member States and the court considered the disputed patent to be infringed but invalid in the other Member States, it would have to allow the enforcement of a right that was not effective according to its own legal principles and therefore did not justify any measures. The objective of a comprehensive decision based on uniform legal principles would thus clearly be missed. The continuation of the proceedings is therefore not prevented.

Irrespective of this, the plaintiff's further considerations regarding res judicata would not prevent the proceedings from continuing either. According to the established case law of the European Court of Justice, the assumption of conflicting res judicata requires, according to the autonomous understanding of EU law, the existence of a final decision by a competent court (1.), that, based on the same grounds (2.), a decision had been made on the same subject matter (3.) without contradiction to the applicable legal system of the court (4.) between the same parties (5.). These conditions were also not met.

Action for annulment – enforceability

The defendant is of the opinion that the technical teaching is neither clear nor executable solely due to the lack of a definition of the characteristic "for a firm connection". Furthermore, it is detrimental that the contested patent only specifies as a minimum quantity that at least 50% by weight of silver flakes and at least 6% by weight of one or more organic solvents must be used. The remaining 44% by weight remain open and undefined in this case. This places an unreasonable burden on the skilled person to find out how the feature "for firm bonding" could be fulfilled by means of "trial and error". The

examples of implementation would only cover a minimal fraction of the breadth of the patent claims. With regard to the numerical values of shear strength tests specified in paragraphs [0084] and [0086] of the description of the contested patent, there was a lack of information on how these tests had been carried out, for example whether a standardised test had been used. Furthermore, these tests did not allow any conclusions to be drawn about the strength of the sintered layer, as the material could just as easily have failed at the substrate or at a brittle layer at the interface.

Counterclaim for revocation – novelty

The defendant argues that the subject matter of claims 1, 2 and 3 has been prejudiced in terms of novelty by the presentation "Ferro Metal Powder Products June 2011" (JD 15) and the product data sheets for silver flakes SF30 (JD15, p. 20) and SF77A (JD23).

Counterclaim for nullity – Inventive step

The defendant argues that there is also a lack of inventive step because the sintering pastes claimed do not provide increased strength compared to the prior art, meaning that there is no further development of the prior art. The value range for the mathematical product claimed is arbitrarily set, as products outside this range would also have the same strength. Furthermore, the technical effect is not achieved across the entire claimed value range, as the minimum values for components A and B leave a proportion of 44% by weight, which allows for an unlimited number of embodiments; the embodiments cited in the contested patent cover only a minimal part of the claimed range. Furthermore, the feature "for firm connection" could not contribute to an inventive step. Since, as

shear tests carried out by the defendant showed, the strength did not increase with increasing product specific surface area and tamping strength, the limit values claimed were also set arbitrarily. Therefore, the task to be solved objectively had to be formulated in less demanding terms:

The task to be solved could only be regarded as the provision of alternative sintering pastes.

Based on their technical knowledge and the desire to achieve the lowest possible porosity, a person skilled in the art would consider metal flakes with a "high" tamping density and a "large" specific surface area (high surface energy) as an alternative solution. Such a routine selection based on general technical knowledge does not require any inventive step.

Even if one were to assume that the task to be solved should actually be seen as the provision of a sintering process for the stable (firm) connection of components, the solution specified in the patent in suit is not based on an inventive step in relation to claims 1, 2 and 3, considering the closest prior art mentioned in paragraph [0005] of the contested patent, WO2011/026623 A1 (JD 24 or JD 25, which is almost identical in content) mentioned in paragraph [0005] of the contested patent, in combination with specialist knowledge or in combination with JD 17, it would still not involve any inventive step with regard to claims 1, 2, 3, 4, 5, 7 and 8. In particular, the skilled person would have considered the teaching of JD17 in order to favourably influence (i.e. reduce) the porosity parameter (of the compound) in an obvious manner and thereby achieve increased strength by maximising the tamping strength and specific surface area of component A using the "silver flakes" taught in JD17. Although the values disclosed in JD17 were slightly below the claimed value range, this constituted a "tryand-see" situation that would allow the skilled person to arrive at the technical teaching of the contested patent through routine testing. These tests included

The expert was prompted to do so because the JD17 suggests that lower values of the mathematical product – specifically 35,000 to 36,000 cm⁻

¹ – were unsuitable, but that the range from 39,600 to 47,300 cm⁻¹ was advantageous.

Using essentially similar arguments, the defendant argues that the combination of JD24 and JD15 ("SF 30") and the combination of JD24 and JD23 ("SF 77A") also lead to the lack of inventive step of the aforementioned claims.

For further details of the facts and legal arguments, reference is made to the parties' written submissions and annexes, as well as to the order pursuant to R.105.5 RoP following the interim conference on 28 May 2025 and the record of the oral proceedings on 1 July 2025.

REQUESTS

The plaintiff finally requests (Annex CBH 47):

- I. European patent EP 3 215 288 B1 has been infringed by the defendant.
- II. The defendant is ordered to refrain from

to refrain from

- II.1 metal sintered preparations comprising
 - 1.1 (A) 50 to 90% by weight of silver,
 - 1.1.1 which is present in the form of particles, wherein the metal particles have the form of flakes or an irregular shape,
 - 1.1.2 wherein the metal particles have a coating comprising at least one organic compound selected from the group consisting of (, , , , free fatty acids,

fatty acid salts and fatty acid esters, and

- 1.2 (B) 6 to 50% by weight of one or more organic solvents selected from the group consisting of
 - terpineols,
 - N-methyl-2-pyrrolidone,
 - ethylene glycol,
 - dimethylacetamide,
 - 1-tridecanol,
 - 2-tridecanol,
 - 3-tridecanol,
 - 4-tridecanol,
 - 5-tridecanol,
 - 6-tridecanol,
 - isotridecanol,
 - 1-hydroxy-C16-C20-alkanes, which are unsubstituted except for a methyl substitution on the penultimate carbon atom
 - dibasic esters,
 - glycerine,
 - diethylene glycol,
 - triethylene glycol and
 - aliphatic hydrocarbons with 5 to 32 carbon atoms, wherein
- 1.3 the mathematical product of
 - 1.3.1 Compacted density of the metal particles of component (A), determined in accordance with DIN EN ISO 787-11: 1995-10, and

- 1.3.2 specific surface of the metal particles of component (A), determined in accordance with DIN ISO 9277 : 2014-01,
- 1.3.3 is in the range of 50,000 to 80,000 cm⁻¹

in the Federal Republic of Germany, the French Republic, the Italian Republic and Romania

or to possess them for these purposes

if these is suitable for for firm connect of components;

- III. The defendant is further ordered, within a period of 45 days after service of the judgment within the meaning of R. 118.8,
- 1. to provide the claimant with information in electronic form, structured by calendar month and by patent-infringing products, which can be evaluated using a computer, on the extent to which it (the defendant) has committed the acts referred to in No. II. in order to calculate the damages to which the plaintiff is entitled, including the defendant's profits from 29 August 2018 onwards, as well as for the calculation of appropriate compensation for the territory of the Federal Republic of Germany from 13 September 2017 to 28 August 2018, specifying
 - (a) the names and addresses of the manufacturers, suppliers and other previous owners,
 - (b) the names and addresses of commercial customers and points of sale for which the products were intended;
 - (c) the quantities of products manufactured, delivered, received or ordered, as well as the prices paid for the products;

whereby copies of the relevant purchase receipts (namely invoices or, alternatively, delivery notes) must be read aloud as proof of the information provided, whereby details requiring confidentiality may be blacked out outside the data subject to disclosure and notification requirements;

- 2. to provide the claimant with an orderly list in electronic form showing the extent to which it (the defendant) has committed the acts referred to in No. II above since 13 September 2017, specifying
 - (a) the individual deliveries, broken down by delivery quantities, times and prices, as well as type designations and the names and addresses of the recipients;
 - (b) the individual offers, broken down by offer quantities, times, prices, type designations and the names and addresses of the commercial recipients of the offers;
 - (c) the advertising carried out, broken down by advertising media, circulation figures, distribution period and distribution area
 - and, for the period from 29 August 2018 onwards, additionally
 - (d) the costs, broken down by individual cost factors and the profits achieved,

whereby the defendant reserves the right to disclose the names and addresses of non-commercial customers and recipients of offers to a certified auditor to be designated by the claimant, who is bound to secrecy vis-à-vis the claimant and is resident in one of the contracting Member States, instead of to the claimant, provided that the defendant bears the costs thereof and authorises and obliges the auditor inform the plaintiff, upon specific request, whether a particular customer or recipient of an offer is included in the list;

- 3. to hand over any product that is directly or indirectly in its possession or ownership in Germany, France, Italy or Romania and referred to in No. II, including products recalled and removed from distribution channels in accordance with Sections III.4 and III.5, to a bailiff to be designated by the plaintiff for the purpose of destruction at the defendant's expense;
- 4. the products referred to in No. II that have been placed on the market to commercial customers, stating that this court has found that the product infringes European patent EP 3 215 288 B1, and with a binding undertaking to reimburse the costs incurred, to bear the packaging and transport costs incurred, to reimburse the customs and storage costs associated with the return of the products and to take back the products, recall them;
- 5. to permanently remove the products listed under No. II from the distribution channels by taking back these items, if necessary enforcing their surrender with its claims for surrender, or, at the plaintiff's discretion, arranging for the destruction of these items at the respective owner's premises at the defendant's expense.
- IV. The defendant is further ordered to pay the plaintiff EUR 250,000.00 as provisional damages.
- V. It is hereby determined that the defendant
- 1. is obliged to compensate the claimant for any further damage incurred by Heraeus Precious Metals GmbH & Co. KG, Herausstraße 12-14, 63450 Hanau, has incurred for all past actions pursuant to No. II since 29 August 2018 and until 31 July 2023, as well as for all past actions committed since 1 August 2023 and future actions pursuant to No. II that the plaintiff has incurred and will incur,

- 2. is obliged to pay the plaintiff appropriate compensation for all actions pursuant to No. II in the Federal Republic of Germany for which compensation is not already payable pursuant to No. VI.2.
- VI. The costs of the proceedings shall be borne by the defendant.

The defendant requests that

- 1. European patent EP 3 215 288 be declared invalid in the territory of the Federal Republic of Germany (DE), the French Republic (FR), the Italian Republic (IT) and Romania (RO).
- 2. The action be dismissed.
- 3. The plaintiff shall bear the costs of the action. The counterdefendant shall bear the costs of the counterclaim.

The plaintiff defends the contested patent uniformly for all contracting member states involved in the proceedings in the version of auxiliary request 3 submitted with Annex NiB 23 to the application for amendment of the patent dated 14 January 2025, in accordance with the version upheld by the Federal Patent Court, and otherwise requests that the counterclaim be dismissed with costs. This entails a restriction for all Contracting Member States subject to the proceedings except Germany.

REASONS

Insofar as it is directed against the German part of the contested patent, the counterclaim for revocation is only admissible with regard to the ground for revocation of lack of enforceability. However, this ground is not valid. The counterclaim for revocation is admissible in relation to the other national parts of the contested patent. Insofar as the plaintiff defends these parts only to the extent of the version upheld by the Federal Patent Court, the counterclaim for revocation must be upheld. Otherwise, the counterclaim for revocation must be dismissed.

The plaintiff has only presented acts of use for the Federal Republic of Germany, but not for the French Republic, the Italian Republic and Romania. Since the acts presented are covered by a national prior use right, no patent infringement can be established in this respect. Since, on this basis, Article 34 EPCU cannot be applied to France, Italy and Romania, the infringement action must be dismissed in its entirety.

A. The contested patent

- I. Subject matter of the contested patent
- 1. The contested patent relates, in the defended scope, to the use of a metal sintering preparation for permanently joining components and a method for joining components using this metal sintering preparation (description of the contested patent, para. [0001]).

The contested patent states that, in the field of power and consumer electronics, the joining of components such as LEDs or very thin silicon chips, which are highly sensitive to pressure and temperature, poses a particular challenge (description of the contested patent, para. [0002]). In the previous state of the art, the parts were connected to each other by gluing

insufficient thermal and electrical conductivity. In order to connect such components to each other in a thermally and electrically conductive manner, the prior art now resorts to so-called sintering technology (description of the contested patent, paragraphs [0003], [0004], [0005]).

- 2. Against this background, the contested patent sets itself the task of providing a sintering process for the stable connection of components and a corresponding use, with which contact points between the components to be connected are to be formed which have low porosity and high electrical and thermal conductivity (description of the contested patent, para. [0006]).
- 3. To solve this problem, the contested patent proposes a use in claim
- 1. Claim 1 (according to auxiliary request 3) can be structured as follows:
 - Use of a metal sinter preparation for permanently joining of components, whereby the metal sintering preparation
 - 1.1 (A) 50 to 90% by weight of silver,
 - 1.1.1 which is present in the form of particles, wherein the metal particles have the form of flakes or an irregular shape,
 - 1.1.2 wherein the metal particles have a coating containing at least one organic compound selected from the group consisting of free fatty acids, fatty acid salts and fatty acid esters, and
 - 1.2 (B) 6 to 50% by weight of one or more organic solvents selected from the group consisting of
 - terpineols,
 - N-methyl-2-pyrrolidone,
 - ethylene glycol,

- dimethylacetamide,
- 1-tridecanol,
- 2-tridecanol,
- 3-tridecanol,
- 4-tridecanol,
- 5-tridecanol,
- 6-tridecanol,
- isotridecanol,
- 1-hydroxy-C16-C20-alkanes, which are unsubstituted except for a methyl substitution on the penultimate carbon atom
- dibasic esters,
- glycerine,
- diethylene glycol,
- triethylene glycol and
- aliphatic hydrocarbons with 5 to 32 carbon atoms,

characterised in that

1.3 the mathematical product of

- 1.3.1 the tamped density of the metal particles of component (A), determined in accordance with DIN EN ISO 787-11: 1995-10, and
- 1.3.2 specific surface area of the metal particles of component (A), determined in accordance with DIN ISO 9277 : 2014-01,
- 1.3.3 is in the range from 50,000 to 80,000 cm⁻¹.

II. Design

1. Design principles

a) The patent claim is not only the starting point, but also the decisive basis for determining the scope of protection of a European patent. The interpretation of a patent claim does not depend solely on its exact wording in the linguistic sense (see also the English and French language versions of the Interpretation Protocol: "the strict, literal meaning of the wording used in the claims", "sens étroit et litéral du texte des revendications"). Rather, the description and drawings must always be consulted as aids to interpreting the patent claim and not only to resolve any ambiguities in the patent claim.

However, this does not mean that the patent claim serves merely as a guideline and that its subject matter also extends to what, after examination of the description and drawings, represents the patent holder's claim for protection.

The patent claim must be interpreted from the perspective of the skilled person.

When applying these principles, adequate protection for the patent proprietor should be combined with sufficient legal certainty for third parties. These principles for interpreting a patent claim apply equally to the assessment of infringement and the legal validity of a European patent. This follows from the function of patent claims, which, according to the European Patent Convention, serve to define the scope of protection of the patent under Article 69 EPC and thus the rights of the patent proprietor in the designated Contracting States under Article 64 EPC, taking into account the requirements for patentability under

Articles 52 to 57 EPC (Court of Appeal, order of 26 February 2024 – UPC_CoA_335/2023).

- b) The skilled person addressed is a materials scientist, in particular a metallurgist with a diploma or master's degree and many years of experience in the field of material bonding technology in the electronics sector.
- 2. Detailed interpretation of the features of claim 1 of the contested patent
- a) The skilled person understands **the "metal sintering preparation"** claimed to be a mixture of materials which contains metal particles provided with a fixed layer of organic compounds (description of the contested patent, para. [0015], [0019], [0020], [0022]) and an organic solvent and can be used in a sintering process (description of the contested patent, para. [0046]).
- b) The term "metal" refers to all elements that are in the same period (i.e. horizontal extension) as boron in the periodic table of elements, but to the left of boron (i.e. lithium and beryllium), in the same period as silicon (sodium, magnesium and aluminium), but to the left of silicon, in the same period as germanium, but to the left of germanium, and in the same period as antimony, but to the left of antimony, as well as all elements with an atomic number higher than 55.

The contested patent defines "sintering" as the joining of two or more components (e.g. LEDs, transistors, sensors) by heating, while preventing the metal particles (A) from reaching the liquid phase (description of the contested patent, paragraphs [0046], [0051]). Sintering is carried out by applying the preparation to

a component and then establishing contact between the two components in such a way that, together with the preparation, they form a sandwich arrangement (description of the contested patent, paras. [0063], [0065], [0066], [0067]).

The result of the sintering process is the **"fastening"** of the first component to the second component (description of the contested patent, para. [0048]).

c) The required "tamping volume" is the difference between the mass of a measuring cylinder filled with the substance and the mass of the empty measuring cylinder, relative to the volume (in mL) of the substance. In other words, it is the density of the (tamped) metal granulate, whereby any cavities (i.e. air pockets between the particles) caused by the shape of the particles are taken into account as density-reducing factors. In particular, the tamping density is therefore not to be equated with the density of the metal from which the particle is made.

This relationship is illustrated by the following formula:

6 Auswertung

6.1 Berechnung

Das Stampfvolumen nach folgender Gleichung berechnen:

$$v_t = \frac{100 \text{ V}}{m_1 - m_0}$$

Die Stampfdichte nach folgender Gleichung berechnen:

$$\varrho_t = \frac{100}{v_t} = \frac{m_1 - m_0}{V}$$

Hierin bedeuten:

m₀ Masse, in g. des leeren Meßzylinders;

m₁ Masse, in g, des Meßzylinders und des Stoffes;

 V Volumen, in ml, des Stoffes nach dem Stampfen;

v_t Stampfvolumen, in ml/100 g, des Stoffes;

Stampfdichte, in g/ml, des Stoffes nach dem Stampfen.

- d) The "tap density" refers to the density of the poured metal powder. This can be determined, for example, using the ASTM B527-22 standard.
- e) The "tapped density" is measured after a defined compaction of the metal powder.
- f) "Green density" refers to the density of the metal powder after shaping (e.g. by pressing) the sintered paste (metal powder and additives).
- g) "Sinter density" is the density after the sintering process.

If the density after sintering is lower than the theoretical density of the metal, the structure is **porous**. The aim is to set the porosity as low as possible so that the density of the sintered product matches that of the metal.

In principle, a high green density (low porosity) results in a high final density, better conductivity, better mechanical properties and less shrinkage.

h) According to DIN ISO 9277:2014-0, the "specific surface area" is the absolute surface area of a sample divided by the sample mass. The standard describes the determination of the specific external and internal total surface area of dispersed and/or porous solids by measuring the amount of physisorbed gas according to the method of Brunauer, Emmet and Teller (p. 5). "Physisorption" refers to the weak binding of the adsorbate, i.e. the enriched gas, to the external and accessible internal surface of the solid. From this it can be concluded that

that the absolute surface area of a sample represents the area of all surfaces accessible to an ambient gas (e.g. air). The specific surface area can therefore be regarded as a measure of the

"porosity" of a particle. As can be seen from the wording of the claim, the specific surface area does not refer to the compacted metal granulate, but to the individual metal particles. The more porous or ramified a particle is, the greater the specific surface area of the particle.

These relationships are also illustrated by the figure below:



Bild 2 — Schematische Darstellung der Oberfläche eines Partikels, die mit der Adsorptionsmethode erfasst wird (siehe gestrichelte Linie)

i) Feature "for firm bonding"

As explained in paragraph [0017] of the description of the contested patent, the strength of sintered compounds produced using the metal sintering preparation according to the invention is particularly high, or in other words, the adhesion between components sintered using the metal sintering preparation according to the invention is particularly pronounced. In other words, the skilled person is informed that a sintering paste, which is according to of the patented recipe

is suitable for permanently joining components because the strength of the connection that can be achieved in this way is sufficiently high for this purpose. This means that the components can only be separated from each other by applying increased force (see example values in paragraph [0084] of the description). In accordance with this, paragraph [0047] of the description of the contested patent refers to a "sufficiently" strong connection between the components. With regard to the commercial applications in power and consumer electronics described in paragraphs [0002] and [0004] of the description, the fastening of components serves to create a permanent, stable connection so that electrical and thermal conductivity in electronic devices is ensured. The skilled person can therefore immediately infer from the contested patent specification that the use of the preparation as claimed can produce a firm connection in accordance with the patent.

j) Technical contribution of the invention

In principle, a high density (low porosity) – as explained – leads to a high final density, better conductive strength, better mechanical properties and lower shrinkage.

However, the parties disagree on whether high density leads to high adhesive strength. The Chamber does not agree with the defendant's argument that reduced porosity leads to increased material strength but not to an increase in the adhesive strength of sintered components.

According to claim 1 and the description of the contested patent, the adhesive strength of the sintered bond is also a question of the two particle parameters according to feature 1.3:

- Compaction density
- Surface area of the metal particles, and
- the relationship between these two parameters.

It is clear that both the tamping density and the surface of the particles are important in determining the contact area between the particles and thus the diffusion across the boundary between the contacting particles. However, surface chemistry also plays a role. For example, the presence of oxides on the surface would reduce diffusion, which is why a coating is provided according to the claim.

B. Action for annulment

I. Admissibility of the counterclaim for revocation

With regard to the ground for invalidity of lack of patentability (Art. 65(2) EPC, Art. 138(1)(a) EPC), a decision with regard to the German part of the contested patent is precluded by the objection of res judicata within the meaning of Rule 362 of the Rules of Procedure.

Pursuant to Articles 20 and 24(1)(a) of the EPC, the Court shall base its decisions in legal disputes brought before it under this Convention on Union law, the EPC, international agreements and national law, applying Union law in its entirety and respecting its primacy.

The Court of Justice of the European Union has already pointed out the importance of the principle of res judicata both in the legal order of the Union and in national legal orders. In order to ensure legal certainty and the stability of legal relations, as well as the proper administration of justice, court decisions that have become final and un able after all legal remedies have been exhausted or after the expiry of the relevant time limits for appeal should no longer be

Questions may be asked (judgment of 19 April 2012 – ECJ case number C-221/10 P, paragraph 86; judgments of 16 March 2006, Kapferer, ECJ case number C-234/04, ECR 2006, I-ECJ-ECR Year 2006 I Page 2585, para. 20, of 29 June 2010, Commission v Luxembourg, ECJ Case C-526/08, ECR 2010, I-ECJ-ECR Year 2010 I Page 6151, paragraph 26, and of 29 March 2011, ThyssenKrupp Nirosta v Commission, ECJ case number C-352/09 P, ECR 2011, I-ECJ-ECR Year 2011 I page 2359, paragraph 123).

1. The Court of Appeal has already ruled (order of 16 January 2025, UPC CoA 30/2024, Nos. 55-56) that, pursuant to Article 36(1) of the Brussels la Regulation, judgments given in a Member State are recognised in the other Member States without any special procedure being required. However, there is a special provision for the EPG in Article 71a of the Regulation, which defines the EPG as a court common to several Member States. Such a court is considered to be a court of a Member State if, in accordance with the act establishing it, such a common court exercises jurisdiction in matters falling within the scope of the Regulation. It follows that the EPG is considered to be a court of a Member State. Since national courts recognise their own judgments, it is not necessary for the Regulation to provide for the recognition of judgments of the courts of a Member State by the EPG. If recognition and enforcement of a decision issued by the EPO is sought in a Member State that is a party to the EPC, the provisions of the EPC on recognition and enforcement shall apply instead of the provisions of the Brussels Ia Regulation (Art. 71d, last paragraph, of the Brussels Ia Regulation).

2. The EPG exercises its jurisdiction by deciding on a counterclaim for revocation concerning the German part of the contested patent within the framework of concurrent jurisdiction. It is therefore considered a German court with regard to the German part of the contested patent.

It is irrelevant that the EPO – as in the present case – also has to rule on counterclaims for revocation concerning other national parts of the same European patent, because the European patent, by its very nature as a bundle patent, is potentially subject to different fates in the granting states. The entry into force of the UPCA has not changed this insofar as, although the aim is to achieve a high degree of consistency in decisions, the legal nature of a European patent as laid down in the EPC still allows and sometimes even requires nationally divergent decisions.

The defendant's objection that it is unacceptable for the EPO to have to uphold a patent infringement action even if it itself considers that the national patent in question is invalid — contrary to a final decision to the contrary by a national court — is therefore misguided. This supposed contradiction in assessment is based on the principle of substantive res judicata or, in other jurisdictions, on the principle of "l'autorité de la chose jugée" (in French law) or "res judicata" (in common law).

3. Insofar as the EPG replaces the Federal Patent Court in the context of competing jurisdiction, the issue is no different from that which arises in the case of a new national nullity action brought by the same unsuccessful nullity claimant. In both cases, the question of binding effect must be answered uniformly. The Federal Patent Court and the EPO exercise their jurisdiction in this respect as national German courts.

In the absence of specific provisions in the UPCA, national law must be applied to answer the question of the binding effect of the Federal Patent Court's judgment of 7 November 2023 pursuant to Art. 24.1(e) UPCA. This is because recognition is intended to "give decisions the effects they have in the State in whose territory they were given" (ECJ BNP Paribas SA/TR para. 47, with reference to the report by P. Jenard on the Brussels Convention, OJ 1979, C 59, p. 44; Court of Appeal, decision of 3 October 2025, UPC_CoA_534/2024 and 19/2025 and 683/2024; para. 163).

Under German law, if a patent nullity action is dismissed, the legal only extends to the grounds for the action asserted (unsuccessfully) by the plaintiff. Each of the grounds for nullity listed in Art. 138 EPC constitutes a uniform "ground for the action" in this respect. According to these specific principles, which are recognised for the special type of nullity action known as a popular action, the subject matter of the dispute is limited by the grounds for nullity asserted. As a consequence, a plaintiff who has been dismissed with legal effect and who again challenges the validity of a patent cannot invoke the grounds for nullity from the previous proceedings. The grounds set out in Sections 22(1) and 21(1)(1) of the German Patent Act (PatG) and Article 138(1) of the European Patent Convention (EPC) and Article II(6)(1) of the International Patent Convention (IntPatÜbkG) constitute a uniform ground for invalidity (Ann, Patentrecht, 8th edition, Section 26, marginal number 244, cf. RG and BGH case law on the previous provisions: BGH, judgment of 19.2.1963 ZR 64/63 la GRUR 1964, 18.

"Conditioning device"; RG 23 November 1932, RGZ 139, 3, 5; cf. also BGH, judgment of 11 May 2010 - X ZR 51/06 –

4. According to these standards, the decision of the Federal Patent Court of 7 November 2023 is legally binding with regard to the ground for invalidity of lack of patentability pursuant to Art. 138(1) EPC, Art. II § 6(1)

[&]quot;Polymerisierbare Zementmischung" (Polymerisable cement mixture), GRUR 2010, 901).

IntPatÜbkG. The plaintiff in that case (and the defendant in this case) invoked lack of novelty and lack of inventive step in those proceedings. However, it cannot be inferred from the judgment of the Federal Patent Court that it also asserted the ground for invalidity of lack of feasibility. An objective extension of legal force is therefore out of the question.

- 5. According to Section 325 I ZPO, the final judgment is effective for and against the parties and those persons who have become their legal successors after the commencement of the lis pendens (BGH, judgment of 29 November 2011 X ZR 23/11, GRUR 2012, 540 Rohrreinigungsdüse; NZG 2012, 149 marginal no. 11, beck-online). It is therefore also binding on the defendant in the present proceedings, who became the legal successor to the plaintiff in the proceedings before the Federal Patent Court while those proceedings were still pending. No objection has been raised under Section 325 (2) ZPO.
- 6. It must therefore be concluded that there is an absolute procedural obstacle to the continuation of the proceedings with regard to the counterclaim for revocation insofar as the Federal Patent Court, in its judgment of 7 November 2023, ruled with final effect on the ground for revocation of lack of patentability under Art. 138(1)(a) Articles 52–57 EPC with regard to the German part of the contested patent. Otherwise, there is no absolute procedural obstacle.

II. Merits of the counterclaim for revocation

Insofar as the plaintiff only defends the French, Italian and Romanian parts of the contested patent to the extent of auxiliary request 3, these national parts are to be declared invalid without substantive examination to the extent that they go beyond this.

Otherwise, the contested patent is legally valid in the version of auxiliary request 3. The counterclaim for revocation is therefore dismissed in all other respects.

1. Clarity (Art. 84 EPC)

The defendant's objection of lack of clarity is unsuccessful.

- a) A violation of Art. 84 EPC does not constitute a ground for invalidity under Art. 138 EPC, 65.2 UPCA.
- b) When examining whether the patent in an amended version meets the requirements of the EPC, the claims of the patent can only be examined in relation to the requirements of Article 84 EPC if and only to the extent that this amendment (for the first time) results in a violation of Article 84 EPC (cf. on opposition proceedings, EPO, Enlarged Board of Appeal, decision of 24 March 2015, G 3/14).
- c) These conditions are not met.
- d) Furthermore, a correct interpretation of the feature
 "for permanent bonding" leaves no room for ambiguity. The skilled
 person can immediately see from the contested patent that

use of the preparation can produce a solid compound.

2. Enforceability (Art. 83) EPC

The defendant unsuccessfully invokes the objection of lack of feasibility or insufficient disclosure.

- a) A successful objection of insufficient disclosure requires serious doubts, supported by verifiable facts, that a skilled reader of the patent would be able to carry out the invention on the basis of his general technical knowledge (Chamber, order of 19 September 2023 UPC CFI 2/2023).
- b) The defendant cannot justify the lack of disclosure by arguing that the feature "for firm connection" is not defined by the technical teaching of the contested patent. As is already apparent from the patent interpretation of the feature "for firm connection", it is readily understandable to a person skilled in the art what is meant by a "firm connection". The skilled person can immediately see from the patent specification that the use of the preparation as claimed can produce a fixed connection in accordance with the patent.
- c) Furthermore, it is harmless that 44% by weight remain undefined when the respective minimum values for components A and B are assumed. This is because the question of feasibility must be based not only on the wording of the claim, but also on the overall content of the disclosure from the perspective of a person skilled in the art, taking into account the general technical knowledge available on the priority or filing date. Paragraph [0032] of the description of the contested patent discloses that the

metal sintering preparation may contain up to 12% by weight of a metal precursor. What is meant by a metal precursor is explained in more detail below. In addition, paragraph [0042] of the contested patent teaches that the metal sintering preparation may also contain up to 10% by weight of sintering aids, such as organic peroxides, inorganic peroxides and inorganic acids. Finally, other ingredients such as dispersing agents, surfactants, defoamers, binders, polymers and/or viscosity-controlling agents may also be included (paragraphs [0044], [0045]). The skilled person is thus provided with a complete formulation.

d) The defendant's attack is also unsuccessful in that there is a lack of information on how the shear strength of the compound was evaluated. According to para. [0083] of the description of the contested patent, adhesion was determined by shear strength. The components were sheared with a shear cutter at a speed of 0.3 mm/s at 260°C. The force was recorded using a force transducer.

for adhesion on a copper and silver surface in N/mm². In view of this detailed description, no further explanation is required as to whether this was a standardised test. This is because the test setup is so clearly specified for the skilled person that they can easily repeat it.

e) The value ranges disclosed in claim 1 are also disclosed in an executable manner. It is readily possible for a person skilled in the art to produce the metal sintering paste according to the claim and thus implement the technical teaching of the contested patent.

By essentially objecting that the claimed value range is not covered by the examples, the defendant is in fact raising the objection under Art. 84(2) EPC

a.E. of insufficient support for the claims by the description, the subject matter of which, however, as explained above, is in principle excluded from judicial review of validity (Article 138 EPC). The value range was already the subject matter of the granted patent. It has been restricted, if at all, by auxiliary request 3.

Furthermore, the scope of a term is a question that concerns the requirement of clarity under Art. 84 EPC and does not constitute a ground for opposition.

If the objection under Art. 83 EPC is to be examined, the mere fact that a term is broadly defined does not prevent a person skilled in the art from carrying out the invention (EPO, Board of Appeal, decision of 12 May 2016, T-2182/11). The defendant bears the burden of proving that the invention is not feasible in its entirety (Article 54 EPC, cf. for opposition proceedings EPO, Board of Appeal, decisions of 23 August 1994, T-418/91, of 3 November 1993, T-456/91, and of 7 February 1994, T-548/91). The defendant has not put forward any significant arguments to show that the teaching at issue is not practicable in the value ranges not covered by the embodiments.

2. Novelty (Art. 54 EPC)

The technical teaching defended in auxiliary request 3 is new.

a) According to Article 54(1) and (2) EPC, an invention is considered new if it does not form part of the state of the art. The state of the art comprises everything made available to the public before the filing date of the European patent application by means of written or oral description, use or in any other way.

- b) The presentation "Ferro Metal Powder Products June 2011" (JD 15) does not anticipate the subject-matter of auxiliary request 3 in a manner prejudicial to novelty.
- aa) JD15 is a presentation/product catalogue that was sent to employees of the patent proprietor by email on 2 February 2012 without a confidentiality agreement. The publication of JD15 and the public accessibility of the information contained in the document are not disputed.

JD15 discloses 39 different silver powders and 48 different silver flakes with information on particle size distribution, tap density, surface area, areas of application and other special features. However, a metal sintered preparation, and therefore the generic term of claim 1, is not explicitly mentioned.

The defendant refers to silver flakes SF30 and SF70A (page 20) and asserts that all claimed features are implicitly disclosed and/or belong to general technical knowledge. To support this view of the skilled person's knowledge, the defendant refers to the following publications: JD16, JD17, JD18, JD19, JD20 and JD21, as well as the testimony of Mr X (JD34). The defendant argues that the silver flakes of JD15 are used in thick-film pastes used in thick-film pastes and thick film technology concerned the use of fireable pastes for constructing electronic components on a ceramic substrate. A metal sintering preparation based on silver could therefore be inferred from JD15. "Silver flakes" means that they have been ground and therefore coated with fatty acid. It is common practice in the industry to disperse metal particles in one or more solvents in order to obtain sintering pastes (testimony of Mr X - JD 34). It is obvious to the skilled person to consider values in the middle of the claimed range. According to page 20 of JD15

, the silver flake SF30 has a tamped density in the range of 3.0–4.5 g/cm3 and a specific surface area of 1.4–2.2 m2/g (14,000–22,000 cm2/g). The mathematical product therefore lies in the range of 42,000–99,000 cm($^{-1)}$, so that the requirements of features 1.3 to 1.3.3 are partially fulfilled.

- bb) When assessing novelty, it is necessary to take into account what is directly and unambiguously disclosed in a document. In this case, at least the following features of claim 1 are not explicitly disclosed in \underline{a} document:
- 1. Metal sinter preparation.
- 1.1 Silver content
- 1.1.2 A coating
- 1.2 Type and proportion of solvent

As the applicant correctly argues, a combination of five documents with specialist knowledge does not destroy novelty. At best, this is a question of inventive step.

c) The silver flakes SF30 (JD15, S,20) or SF77A (JD23) take the subject matter of the auxiliary request 3 . pre-empt .

The silver flakes designated "SF30" are shown on page 20 of JD15 as one of three examples of silver flakes.

SF77A is one of 48 silver flakes listed in the tables on pages 14 and 15. Further information about SF77A is disclosed in data sheet JD23.

For the reasons stated above, the disclosure of a silver flake does not constitute disclosure of a metal sintered preparation with the characteristics defined in claim 1.

Furthermore, with 48 different silver flakes, there must be an indication as to which one should be selected for a particular application. SF30 is only presented as an example ("representative flake"). With regard to SF77A, JD23 must be viewed in conjunction with JD15, and a reason must be given for selecting these silver flakes. According to JD23, SF77A has a high specific surface area and is suitable for thick-film technology; the mathematical product is 47600 cm(-1) which is outside the claimed range. Furthermore, there is no indication that its use results in good adhesive strength and is particularly suitable for connecting components.

3. Inventive step (Art. 56 EPC)

The technical teaching defended in auxiliary request 3 is also based on an inventive step.

a). According to Art. 56 EPC, an invention is considered to involve an inventive step if it is not obvious to a person skilled in the art from the prior art.

The Chamber applies the task-solution approach developed by the Boards of Appeal of the European Patent Office to examine inventive step. This takes into account the need for legal certainty for road users and the uniformity of case law of the chambers of the Unified Patent Court. In addition, this ensures consistency in the case law of the Unified Patent Court on the one hand and

the European Patent Office and its Boards of Appeal on the other (Chamber, judgment of 4 April 2025 – UPC_CFI_501/2023). However, the approach developed by the Munich Central Chamber in UPC_CFI_1/2023, 16 July 2024 (Sanofi-Aventis/Amgen) would not lead to a different result.

- b) As the closest prior art, the defendant refers to WO2011/026623 A1 (JD 24) mentioned in paragraph [0005] of the contested patent. In combination with technical knowledge or in combination with JD17, this suggests the subject matter of the defended auxiliary request 3.
- c) JD24 (which is mentioned in the contested patent) relates to a metal sintering preparation (metal paste) for connecting components and is a realistic starting point for assessing inventive step because the document relates to the same task as the contested patent (stable connection of components with high electrical and thermal conductivity).

JD24 discloses the subject matter of the generic term of claim 1, d)i.e. a metal sintering preparation comprising:

75-90 wt% metal – see p. 2, last paragraph, and p. 5, paragraph 7 (Cu, Ag, etc.) Coating – p. 7, paragraph 7 (fatty acids, etc.) 6-20 wt% solvent – p. 11, last paragraph (terpineol, etc.)

The difference lies in the fact that JD24 does not disclose any information regarding the tamping density and specific surface area of the metal particles and the relevance of their product to the strength of the sintered compounds produced (the characteristic part of the claim).

d) Based on the missing features, the objective technical task must be formulated on the basis of the technical effect achieved by these features.

As the contested patent teaches, the missing features contribute to establishing or increasing a stable bond between two components. Contrary to the defendant's argument, this effect is actually achieved for silver particles in the range of the mathematical product between 44128 and 68640 cm-1, as demonstrated by the experiments described in paragraphs [0080] – [0086] of the description of the contested patent. The objective technical task is therefore to develop a sintering paste with improved bonding or adhesion between the components. The defendant therefore did not correctly define the task by (only) providing an alternative sintering paste.

- e) Neither expert considerations based on JD24 nor a combination of JD24 with JD17 suggested the subject matter of auxiliary request 3.
- aa) The information missing in JD24, namely that the combination of tamping density and specific surface area has a positive effect on the porosity and thus on the strength of a sintered bond, is not part of the general technical knowledge on the priority date. The Board does not agree with the defendant's reference to page 4 of JD 24 and its argument that the skilled person always refers to this parameter. This is because that page describes the reduction of oxides on the surface of the metal particles and not the effect of tamping density/specific surface area.

bb) JD17 is a dissertation on low-temperature joining technology "NTV" in power electronics. The following table can be found on page 33 (markings by the court):

Pulver			A	В	С	D	Е	F
Тур			Flake	Flake	Flake	fine Flake	kristallin	sphärisch
Farbe			grau	hengrau	heilgrad	dunkelgrau	dunkelgrau	weiß-grau
nach Trocknen	150 °C		hellgrau	hellgrau-weiß	hellgrau-weiß	grau	grau-grün	weiß-grau
Farbumschlag	bei T	°C	225	215	215	215	195	(-
	nach		heller	heller	heller	heller	hellgrau	_*
dann kratzfest			ja	ju	ja	nein	nein	nein
Stampfdichte		g/cm ³	3,6	3,3	4,3	0,1 - 0,6	2,5	
spez. Oberfläche		m ² /g	1,1	1,4	1,1	3,5 - 6	1,4	ča. 0,6
Partikelgrößen-	95 %	μm	10,6	6,5	6,3			
verteilung	90 %	μm	4,5	5,0	4,7		9,9	ca. 10
	50 %	μm	1,7	1,9	1,8		5,4	ca. 5
	10 %	μm	0,6	0,8	0,8		1,3	ca. 2,5
Gewichtsverlust	110°C	%	0,03	0,04	< 0,1	< 0,4		
bei Erhitzen	538 °C	%	0,73	0,65	< 0,6	< 3,5		
an Luft	850 °C	%					< 0,5	
Eignung für NTV			sehr gut	sehr gut	geeignet	nein	nein	nein '

These values can also be represented as follows:

	Α	В	С	D
Compacted density g/cm3	3.6	3.3	4.3	0.1 – 0.6
Specific surface area m²/g	1.1	1.4	1.1	3.5 - 6
Product cm ⁻¹	39600	46200	47300	3500 - 36000

Thus, JD17 does not disclose a mathematical product of tamping density and specific surface area that falls within the claimed value range. Furthermore, the significance of the mathematical product of tamping density and specific surface area for the identification of suitable powders is not mentioned in JD17 and cannot be derived from the document.

The defendant's argument that this is a "trial-and-see" situation cannot therefore be accepted, as JD17 teaches the opposite in this respect. Since the mathematical product of the flake of powder C is above that of powder B, but the suitability for the NVT process is downgraded from "very good" to "suitable", the skilled person could not conclude that a further increase in the mathematical product, as would be necessary to achieve the claimed value range, would be beneficial to stability. Rather, it is noticeable that the flake of powder C, with its specific surface area value (1.1 m²/g), is comparable to the other two powders (A: 1.1 m²/g; B: 1.4 m²/g), but significantly higher in terms of its tamped density (4.3 g/cm³) (A: 3.6 g/cm³; B: 3.3 g/cm³). It would therefore have been more obvious to a person skilled in the art to reduce the value for the tamping density, with the result that the mathematical product would also have been further reduced.

- f) Nor did a combination of JD24/25 with silver flakes SF30 (JD15) or silver flakes SF77A (JD23) suggest the subject matter of auxiliary request 3.
- aa) In the defendant's opinion, the disclosure of these two silver flakes should be seen in connection with JD15.
- bb) However, there is no indication that these metal flakes in combination with JD24 would produce a better connection between electronic components. There appears to be no reason for a person skilled in the art to select these silver flakes in particular, and even if they did, it would not lead to the claimed subject matter.

4. The subclaims referring back to the new claim 1 according to auxiliary request 3 are also new and inventive by virtue of the reference back.

C. Infringement action

The contested embodiments do make use of the subject matter of auxiliary request 3 in the literal sense. Insofar as the plaintiff has asserted acts of use for the contracting member state Germany, the defendant can invoke a national right of prior use. The plaintiff has not asserted any acts of use for the contracting member states France, Italy and Romania. Since, in this situation, the application of Article 34 EPCU cannot be considered for Italy and Romania, the infringement action must be dismissed for all contracting member states asserted.

I. Patent use

The contested embodiments make direct and literal use of the teaching of the contested patent.

- a) This is only disputed by the defendant insofar as it is of the opinion that the contested sintering pastes are not at all suitable for use in producing a "firm" connection of components within the meaning of the patent in suit. The sintering pastes are only intended for ordinary connection of components at low temperatures.
- b) However, based on the interpretation found above, it is clear that a fixed connection in accordance with the patent can be achieved if a sintering paste formulated in accordance with the patent is used

. Since the use of the other features is rightly not in dispute, the non-use argument is invalid.

II. Infringing acts in Germany

It is undisputed that the defendant manufactures sintering pastes in Germany and distributes them there (see CBH 18 and CBH 19). Whether and which acts of use under patent law can be seen in relation to the use claim can be left open. This is because the defendant has a private right of prior use for the territory of the Federal Republic of Germany, which covers all possible acts of use.

III. Right of prior use in Germany

- 2. The defendant has a private right of prior use for the territory of the Federal Republic of Germany.
- a) According to Art. 28 EPC, anyone who would have acquired a prior use right or a personal right of ownership to an invention in a contracting member state if a national patent had been granted for that invention shall also have the same rights in that contracting member state with regard to a patent relating to that invention. Within the framework of Article 28 EPC, the user of the technology according to the invention can only invoke the rights granted to him by the respective national regulations of the respective contracting member states. On this basis, the existence of a prior user's right must be asserted for each of the protected Contracting States (Local Chamber Düsseldorf, decision of 3 July 2024, UPC_CFI_7/2023).

According to the case law of the Court of Appeal, it is incumbent on the parties to present facts and evidence regarding the content of national law and its application (order of 13 August 2025, CoA_446/2025 – Boehringer v. Zentiva). In the present case, the defendant bears the burden of proof and presentation because it invokes a private right of prior use.

b) Arguments of the parties

aa) The defendant argued that a prior use right for the Federal Republic of Germany arises from Section 12 PatG, which reads as follows:

"(1) The patent shall not be effective against any person who, at the time of filing the application, had already begun to use the invention in the country or had made the necessary arrangements for its use. Such a person shall be entitled to use the invention for the needs of his own business in his own or other workshops. This right may only be inherited or sold together with the business. If the applicant or his legal predecessor has disclosed the invention to others prior to the application and has reserved his rights in the event of the patent being granted, the person who has learned of the invention as a result of the disclosure may not invoke measures pursuant to sentence 1 which he has taken within six months of the disclosure.

(2) If the patent holder is entitled to a priority right, the earlier application shall take precedence over the application referred to in paragraph 1. However, this shall not apply to nationals of a foreign country that does not guarantee reciprocity in this regard, insofar as they claim the priority of a foreign application."

The defendant further argued that German case law interprets this provision to mean that, for reasons of fairness, the legislature provides for a restriction of the exclusive right in order to protect the commercial rights of the prior user that already exist or have already been established in preparatory events. This is intended to prevent the unfair destruction of values created in a legally unobjectionable manner. On the basis of an exclusive right that arose at a later date or was established in a legally relevant manner, the patent holder should not be able to exclude from using the invention those who had already used the protected technical teaching beforehand or had made concrete preparations for such use (Federal Court of Justice, GRUR 2002, 231 [233 f.] – bending device; BGHZ 182, 231 = GRUR 2010, 47 marginal no. 16 – filler; cf. also on prior use rights under design law: Federal Court of Justice, GRUR 2018, 72 marginal no. 61 – bed frame).

Accordingly, three things are necessary to obtain the right of prior use under Section 12 PatG:

- possession of the invention,
- the exercise of ownership of the invention, and
- acquisition of ownership of the invention before the priority date of the patent (cf. BGH GRUR 2012, 895).

Inventory ownership is held by those who, based on their own knowledge, know what measures they must take to achieve success in accordance with the invention. This knowledge is deemed to exist if the technical teaching resulting from the task and solution has been objectively completed and subjectively recognised that and how actual implementation is possible. It is not necessary for the beneficiary to have considered what they are using to be a patentable invention or to have regarded the invention as complete. However, the actions of the person invoking Section 12 of the PatG

must be based on knowledge that makes it possible to repeat the technical teaching at any time. This is the case if the action is systematically aimed at realising a technical teaching that has all the features of the subject matter of the invention (see BGH GRUR 2012, 895 marginal no. 18 – Desmopressin; Scharen in Benkard, PatG, 12th edition 2023, Section 12 marginal number 5). Whether the person acting is aware of effects which, according to the information in the description, are associated with the realisation of the subject matter of the invention is irrelevant (see BGH GRUR 2012, 895 marginal number 18 – Desmopressin). The protection of the prior user established by this cannot be undermined by a subsequent restriction of the property right. (cf. BGH GRUR 2023, 1184 – Faserstoffbahn, margin note 86).

bb) In factual terms, the defendant argued that it had decided on a formulation for its sintering pastes prior to the priority date , silver flakes with which patent-compliant all features. For example, it specifically used silver flakes of the SF 30 and SF 70A types for the sintering pastes and actively advertised these sintering pastes to third parties with data sheets. The defendant had thus committed itself to a specific formula before the priority date and continues to manufacture its sintering pastes today according to the same formula as it did then. The use of commercially available silver flakes SF 30 and SF 70A, both then and now, enabled the defendant to repeatedly implement the technical teaching at any time.

Specifically, prior to the priority date, Silverflake SF 30 with a "mathematical product" of 60,390 cm⁻¹ (Example 1.1), or alternatively the silver flake SF 70A with a specifically measured "mathematical product" of 71,838 cm⁻¹ (Example 1.2). Both values were in the middle of the claimed range of 50,000-80,000 cm(-1). The defendant

thus made a specific choice for its commercial products to manufacture and supply sintering pastes with all the features specified in the patent. The invention therefore existed before the priority date of the patent in suit, and this was also confirmed to third parties through the advertising and manufacture of corresponding sintering pastes.

(1) The sintering paste according to Example 1:

The defendant manufactured and advertised sintering paste 6380 0015 from October 2014 onwards. Silver flakes of types SF 30 and SF 70A were used for these sintering pastes (JD39). The batches offered each contained x% silver flakes (specified in line 1 of the table in the middle of the data sheet) and differed in terms of the mixture of solvents and thus also in their viscosity values. This enabled customers to select the most suitable paste in terms of viscosity properties and processability, depending on their technical requirements (the viscosity is shown in line 2 of the table in the middle of the data sheet). The silver paste is referred to as "Low Temp Bonding Paste" (top right below the paste number), i.e. "paste for bonding at low temperatures". This is explained in more detail in the product description at the top left of the data sheet. It states:

"Product Description: 6380 0015 (SAP: 135 8940) is an Ag paste especially designed for metallisation for chip bonding at low temperatures."

In English:

"Product description: 6380 0015 (SAP: 135 8940) is a silver paste specially designed for metallisation for chip bonding at low temperatures."

The data sheets came from the defendant, which at the time was still operating under the name (visible at the bottom left of the data sheet). The data sheets are dated 27 October 2014 (at the bottom right of each data sheet).

The specific recipe for the pastes advertised in this way is taken from the corresponding "batch run cards" (JD 40). The product number is shown in the top left-hand corner of the batch run card, in this case number 6380 0015. The corresponding SAP number is also noted next to it. The respective batch number is shown in the top right-hand corner of the batch run card, for example "E-2670/2014". This corresponds to the data sheets as follows: The batch run card for paste 6380 0015 batch E-2670/2014 belongs to data sheet 6380 0015 # E-2670/14, etc.

The composition of the respective batch can be seen in the middle table, which is labelled "Recipe". The respective components of the paste, also with their respective batch numbers, and the respective quantities used ("weigh-in") are noted there. For batch E-2670/2014, for example, x g of "Ag Flake SF 70A" (i.e. silver flake SF 70A) from batch 639449 was used, suspended in a solvent consisting of x and y. This batch of silver paste was manufactured and released on 23 October 2014, as indicated by the date at the end of the batch run card. Other batches of sintering paste with this silver flake offered different mixing ratios of the solvents; x, y and z were used. X and y are common solvents for sinter paste production, each of which is also explicitly mentioned in claim 1 of the patent in suit ("... (B) 6 to 50 wt% of one or more organic solvents selected from the group consisting of X,

... y, ..."). For the various batches of sintering paste 6380 0015

, two different silver flakes were used, SF 70A and SF 30, each of which constituted its own prior use.

For further details on Example 1, reference is made to the statement of defence, para. 325 et seq.

(2) The sintering paste according to Example 2

In September 2009, a patented silver sintering paste for low-temperature bonding technology was manufactured for customer x in x. The batch run card for the sintering paste produced is presented as JD 49. The sintering paste batch E-2351/2009 was produced under product number 6380 0020 (SAP number 1331212). The product type noted on the batch run card is "NTV paste screen printing", i.e. a paste for use in screen printing in low-temperature bonding technology (NTV). The delivery was intended for customer x in x ("Customer: x (x)"). As can be seen from the date at the top of the batch run card and the last line of the document, the paste was produced on 15 December 2009. x g of silver flakes SF 31 were used (line 1 of the table with the "recipe" table):

Component "Ag Flake SF 31" with the SAP number 1333884 added in brackets). X was used as the solvent. The recipe specifies a minimum amount of solvent of x g x, in addition to a variable amount of x g solvent, referred to as "space (x or y)". This serves the purpose of allowing for a certain amount of variability in a batch so that the viscosity of the paste can be adjusted appropriately. Here, an original batch of x g silver flakes and x g x was first created, corresponding to a total batch size of x g. As can be seen from the second table on the batch run card (entitled "Adjustment"), x g of this first batch was then used and mixed with x additional grams

x for adjustment. In the sintering paste produced in this way, with its finely adjusted viscosity, there would ultimately have been x g of silver flakes in x g x (these quantities originate from the x g of the mixed original batch of x g in total), plus the additional x g x from the adjustment. This corresponds mathematically to a resulting proportion of silver flakes of x %.

The silver flake used was type SF 31, specifically batch 223628. The certificate of analysis for this batch is submitted as Annex JD 50.

This certificate of analysis was reissued on 1 November 2023, as it could no longer be found in paper form at the defendant's premises due to its age the framed . . As from the rectangle ("Certificate of Analysis"), the certificate had been produced true to the original from the archived data, as determined and stated in the original certificate from 2006 . . . The certificate of concerns material number 1333884 "SF 31 Ag Flake". analysis This is a silver flake of type SF 31 with the SAP material number, as also noted in the batch run card. A few lines below, above the table on the certificate of analysis, the batch number is indicated ("lot: 223628"). The first and second lines of the table then show the tap density and the specific surface area. For SF 31 silver flakes, the tap density generally varies between 3.4 and 4.8 g/ml ("lower limit: 3.4; upper limit: 4.8"). For the specific batch delivered, a tap density value of 4.0 g/ml was determined. The specific surface area for SF 31 silver flakes generally ranges between 1.5 and 2.4 m²/g ("lower limit: 1.50; upper limit: 2 .40"). For the specific batch delivered, a specific surface area of 2.00 m²/g was determined. From the data in the certificate of therefore shows therefore analysis for the patentcompliant

Product according to feature 1.3 of the patent in suit for this type of silver flake has a range of 51,000 – 115,200 cm⁻¹. For the specific batch delivered, the product amounts to 4.0 g/ml x 2.00 m2/g = 80,000 cm⁻¹. Sinter paste 6380 0020 was already advertised in this way in 2009 and in subsequent years. The data sheet dated 24 November 2008 is submitted as Exhibit JD 51. The silver paste is referred to there as "Low Temp Bonding Paste" (top right below the paste number), i.e. as "paste for bonding at low temperatures". This is explained in more detail in the product description at the top left of the data sheet. It states (at that time still with a typo in "description"):

"Product description: 6380 0015 (SAP: 135 8940) is an Ag paste especially designed for metallisation for chip bonding at low temperatures."

The sintering pastes using SF31 silver flakes therefore also comply with the patent claim, as summarised below:

	Patent	SF31 2009
1.1 Metal particles, wt.	50-90	Х
1.2 Solvent, wt.%	6-50	X %
1.3 Product, cm ⁻¹	50,000 -	Batch according to
	80,000	data sheet:
		80,000
		Span according to
		Data sheet:
		51,000 – 115,200

The sintered paste was dispatched to the customer, x, with address in x, on 27 January 2010 (SAP document JD 52).

According to the values in the data sheet, the batch actually delivered, at 80,000 cm⁽⁻¹⁾, was at the upper end of characteristic 1.3. There are no longer any remaining stocks of the batch of silver flakes SF 31 from that time, meaning that measurement in accordance with the measurement methods specified in the patent claim is no longer possible. However, this could be left open, because either the value of the specific batch was taken as the basis for prior use and was therefore within the scope of the patent, or the lower specification limit was used. This is 51,000 cm(-1), which is also in the middle of the originally granted and also limited scope of the claim. Even if, hypothetically, the same correction factor were applied as in the other prior use examples mentioned above, according to which the value actually measured using the methods of the patent claim was approximately 1.3 times higher than the data sheet value, the lower limit of the specification range would be approximately 66,300 cm(-1) and thus still be in the middle of the claimed range. Silver flakes of the type SF 31, which is recognised as suitable, would therefore also be used in this tolerance range in accordance with their intended purpose.

For examples 3 and 4, reference is made to the statement of defence, para. 368 et seq.

cc) The plaintiff agrees with the defendant's legal argument. However, it believes that in the aforementioned decision

"Faserstoffbahn" (GRUR 2023, 1184) merely stated that even if prior use does not realise characteristics that are added later, a prior use right may still exist. However, this does not alter (see, for example, OLG Düsseldorf GRUR-RR 2024, 61 – Rollwagen; Bacher GRUR 2024, 1387) the established principles regarding the limits of prior use rights, particularly with regard to

the realisation of advantageous embodiments (see in particular BGH GRUR 2019, 1171 – protective covering). However, raising the lower limit to $50,000~\rm cm^{-1}$ is not (contrary to the statement of defence) a matter of "arbitrariness"; rather, this is highlighted as particularly advantageous in section [0017] of the patent in suit and was already the subject of the granted subclaim 2. The comparative tests described in sections [0084] and [0086] also made it clear that a product \geq 50,000 cm⁽⁻¹⁾ canin principle achieve an even higher adhesive strength than with a product \geq 40,000 but < 50,000 cm⁻¹.

Furthermore, the Federal Court of Justice decision "Desmopressin" (GRUR 2012, 897 marginal no. 18):

"Such knowledge is lacking if the technical action has not yet progressed beyond the trial stage (RG, Mitt 1931, 72 [74]) or if an object has been used merely individual specimens "accidentally" exhibited the characteristics of the invention (RG, MuW 1936, 406 [407 r. Sp.]). In both cases, the action is not based on knowledge that makes it possible to repeat the technical teaching at any time, so that it is not justified to attach a legal position conferring vested rights to it. Such cases of unconscious or at least insufficiently established use of the technical teaching are distinguished from actions that are systematically aimed at realising the same. The latter are to be regarded as establishing ownership of the invention because they are based on the secure knowledge that the invention can be carried out. Only in this respect can knowledge of the cause-and-effect relationship be relevant (see RG, MuW 1931, 449 [450]; GRUR 1939, 300 [302]; GRUR 1940, 434 [436]; Eichmann, GRUR 1993, 73 [80]; Benkard/Rogge, § 12 margin note 5; Busse/Keukenschrijver, § 12 margin note

16; Klauer/Möhring, Patentrechtskomm., Vol. 1, 3rd ed. [1971], Section 7 PatG, marginal no. 7). On the other hand, it is not necessary for the person acting to have knowledge of the advantageous effects of the invention beyond the knowledge of the assured feasibility of the invention. This is because ownership of the invention cannot be made dependent on conditions that are not part of the technical teaching as defined in the patent claim. Knowledge of effects which, according to the information in the description, are associated with the use of the object of the invention but which have not been included in the patent claim cannot therefore be decisive in determining whether ownership of the invention has been established."

The defendant did not submit any manufacturing specifications or similar documents from which it could be concluded that a certain product category had always been manufactured in a repeatable manner following the same rules. The defendant's actions were therefore not based on any "reliable knowledge" by means of which the subject matter of the claim could be repeatedly realised. Neither was the defendant in a position to describe the inventive step in a comprehensible manner, nor was it possible for it to systematically reproduce the teaching of the patent in suit. Invention ownership was already lacking insofar as the statement of defence did not expressly state that the defendant had followed any selection criteria with regard to the criteria of tamping density and specific surface area relevant to the teaching of the patent in suit. On the contrary, the batch run cards underlying the production of the individual batches showed that the defendant did not consider these parameters to be important at any time. According to German case law, "intellectual ownership of the invention" in the sense that the defendant must have subjectively recognised that

a product that meets the requirements or can be numerically defined in terms of tamping density and specific surface area results in particularly good adhesive strength of a sintered bond. However, it is necessary that the defendant "knew what measures it had to take in order to achieve the success according to the invention, i.e. had recognised the external causal connection corresponding to the invention". This would require, at a minimum, a subjectively planned selection of the functionally interacting parameters of tamping density and specific surface area.

- dd) The plaintiff disputes in factual terms, on the grounds of lack of knowledge,
- that these are residual stocks of the same powder batches used as starting material at the time;
- that the analyses of these samples carried out in 2024 yield results that can be transferred to the actual composition of the silver powders according to the claimed measurement at the time of manufacture of the respective prior use products;
- that Appendices JD 31 and JD 32 of Example 3 refer to a uniform technical object;
- that the products designated as 6380 0020 according to Example 2 (Appendices JD 49, JD 60) were always manufactured according to this or always the same recipe and, in particular, always with the same silver powders;
- that products of type 6380 0025 in Example 4 were manufactured according to a generally binding recipe and, in particular, always with silver powder of type SF 70A;
- that one of the 15 processes actually fulfilled the scope of claim group 1.3.

Furthermore, the plaintiff explains in detail that and why it has doubts about the defendant's presentation. None of the processes presented by the defendant can be said to fulfil the requirements of

feature group 1.3. Rather, there are ambiguities in each case which preclude the (defendant's) obligation to prove that the invention has been used. The plaintiff cannot believe that the defendant still has reserve samples after 10 years.

- ee) From a legal perspective, the Chamber concurs with the defendant's statements on the legal situation in Germany. The plaintiff has not disputed these statements. However, when applying the principles established by the Federal Court of Justice, the plaintiff arrives at a different conclusion.
- ff) The Chamber is of the opinion that it is sufficient for the establishment of the right of prior use that the defendant decided before the priority date to produce sintering pastes for NTV applications using silver flakes of the types SF65, SF70A and SF30. As a result of their production, these flakes are shaped in such a way that sintering pastes manufactured from them inevitably exhibit the relevant key figures for specific surface area and tamping density in the range of the "mathematical product" according to the patent in suit.

This, as well as the fulfilment of the other claim characteristics, was proven by the data sheets (e.g. JD 39) and batch run cards (e.g. JD 40) submitted, as well as the written witness statements of employees x (JD 43) and y (JD 34 and JD 77).

Consequently, the members of the Chamber are convinced, with a degree of certainty that is sufficient for practical purposes and that silences any doubts, that the defendant regularly manufactured and sold sintering pastes for permanently bonding components prior to the priority date, using silver flakes of the types SF65, SF70A and SF30. These sintering pastes had all the features of

claim 1 in the version according to auxiliary request 3 and were used to produce a firm connection between components.

This overcomes the plaintiff's objections outlined above, which can be classified as disputes based on lack of knowledge. It can therefore be left open whether a denial based on lack of knowledge pursuant to Rule 171(2) of the Rules of Procedure is possible at all (see (LK Düsseldorf, decision of 13 May 2025, UPC_CFI_505/2024, para. 74).

By using these types of silver flakes, it was inevitable that the product covered by the patent would achieve the required tamping density and specific surface area. The defendant's employees may not have realised that these two values could be expressed as a mathematical product, as stated in the patent claim. However, they did realise that using these silver flakes to manufacture sintering pastes would enable components to be firmly bonded together. It is irrelevant that the defendant's employees did not recognise that this would achieve the particularly strong type of connection defined in the description by shear tests. According to the above-mentioned ruling of the Federal Court of Justice, this is not a prerequisite for the creation of a prior use right to a patent claim in which these details have not been included. By virtue of this knowledge, the defendant was able to repeatedly implement the technical teaching at any time. The defendant had therefore moved beyond the stage of mere experimentation.

The defendant is therefore entitled to a private prior use right for the territory of the Federal Republic of Germany. This covers at least the value ranges of the contested embodiments (CBH 18 and CBH 19). Therefore, there is no need to clarify which deviating formulations still fall under the prior use right in the present case.

VI. Infringing acts outside Germany

The plaintiff has not presented any specific acts of infringement by the defendant outside Germany. Rather, it derives a risk of infringement for France, Italy and Romania from the acts of use committed in Germany. However, the acts of use committed in Germany were covered by a private prior use right and were therefore lawful. They do not therefore constitute acts of infringement and do not give rise to a risk of infringement in the other territories.

The application of Article 34 EPCU does not require a different outcome. According to this, in the case of a European patent, the decisions of the court apply to the territory of those Member States for which the European patent has effect. Accordingly, it is sufficient to allege acts of infringement in one of these territories and, in the event of a dispute, to prove them (Munich Regional Court, decision of 15 November 2024, UPC CFI 15/2023 – GRUR-RS 2024, 31582, para. 256 – Edwards Lifesciences/Meril). In the present case, however, as explained above, there are no acts of infringement in at least one contracting member state.

1. The parties have to infringements outside Germany as follows:

Plaintiff: Statement of claim, para. 119

The claimant has no specific positive knowledge of infringements by the defendant in other countries. However, Germany, France and Italy are part of the single European internal market. A patent infringement in an EU Member State constitutes a risk of repetition for acts of use in the EU internal market or a risk of first infringement for the infringement of further national parts in the entire EU internal market and thus also for the parts of the patent in suit asserted here. Furthermore, the defendant is part of a globally active group of companies which also lists locations in France and Italy on its website; the relevant industry here operates across borders.

Defendant: Statement of defence, para. 300

A infringement of the patent in suit is for the territory of the French and Italian Republics – even in the current version of the patent in suit – in any case due to the lack of "manufacture". The defendant does not manufacture the contested sintered pastes in these countries. The plaintiff does not argue otherwise. Its submission is therefore inconclusive.

Defendant: Statement of defence, paras. 467-469

Irrespective of the existence of prior use rights, the claimant does not demonstrate that the substantive requirements for an injunction are met. In connection with the risk of repetition for France and Italy, the claimant merely refers vaguely to the fact that the defendant is a "globally active corporation" which also lists locations in France and Italy on its website (see claim, p. 38). The plaintiff's submission is therefore inadmissible. The mere fact that a website

refers to locations in other countries does not constitute a risk of repetition. This applies in particular if the defendant does not only sell one product. This is the case here. The plaintiff's submission does not indicate which specific circumstances and which facts could constitute a risk of repetition in France or Italy specifically in relation to the defendant. As the plaintiff itself admits, the defendant is merely part of a group with a large number of companies and websites. However, the plaintiff does not make any specific submissions regarding the defendant's alleged acts of use. The plaintiff also seeks an injunction against the manufacture of the disputed products, without, however, explaining what could justify such an injunction. The defendant does not have any production facilities for the contested products in France or Italy and therefore does not manufacture them in either country. The application must therefore be dismissed.

Plaintiff: Reply, para. 21

The defendant denies infringement of the patent in suit in France and Italy (the question of prior use is not addressed here) only from the point of view of manufacture (para. 300). Elsewhere (para. 467), it comments on the risk of repetition. Since the realisation of the respective subject matter of the claim is not in dispute, this is discussed in the concluding legal remarks under section IX.

Plaintiff: Reply, para. 210

The defendant considers that the action is inconclusive with regard to the acts of use relating to manufacture that are also asserted for France and Italy (KE, para. 300). In this respect, reference is made to the action (para. 119). The defendant indisputably manufactures the contested embodiments in Germany (part of the single EU internal market), offers them in France and Italy (part of the single EU

internal market) and undisputedly markets them there. This establishes a risk of first infringement that the defendant also manufactures in these countries, i.e. expands or relocates its production.

Plaintiff: Reply para. 216

The defendant believes that there is no risk of repetition in countries outside Germany (KE, 467 ff.). Irrespective of the fact that states this in open contradiction to its submission on "international prior use", the court has already ruled that it follows from Art. 34 UPCA that the court can order an injunction for each Member State in which the patent in suit is in force as soon as an (imminent) infringement has been established in at least one Member State (EPG LK Munich, decision of 15 November 2024, UPC CFI 15/2023 – GRUR-RS 2024, 31582,

para. 256 – Edwards Lifesciences/Meril).

Plaintiff: Written submission of 5 June 2024 (para. 21 et seq.)
The contested embodiment implements feature group (a3) of the method claim and thus constitutes an essential element of the invention within the meaning of Article 26.1 EPC. The defendants know for certain and it is obvious to them that the contested embodiment is suitable and intended to be used by their customers for a method according to claim 5 or 6 (see also UPC_CFI_2/2023 ACT_459746/2023 – GRUR 2023, 1513 – Nachweisverfahren). The defendant advertises it for this very purpose (see UPC_CFI_452/2023 ACT_589655/2023 – GRUR-RR 2024, 97 – Avalanche transceiver; UPC_CFI_452/2023 APP_4074/2024 – GRUR-RS 2024, 7207 – Avalanche transceiver II).

If, contrary to expectations, the court were to conclude that there is no obvious adaptation with regard to the claim of use asserted for Germany, or

should it – as a precautionary measure – not consider the obvious adaptation to be direct use, this would in any case constitute an indirect infringement pursuant to Art. 26.1 UPCA.

This is because the defendant offers and supplies, with the contested embodiment, a means (metal sintering preparation) which relates to an essential element of the invention (use of the metal sintering preparation for permanently joining components). The above considerations apply accordingly: the defendant advertises the contested embodiment in accordance with the intended use specified in the claims and is aware and it is obvious to it that the contested embodiment is suitable and intended to be used by its customers for the permanent joining of components.

Plaintiff: Written statement of 27 September 2024, para. 5

With regard to the patent infringement, the statements made in the action (para. 119) and in the written statement of 5 June 2024 (para. 21 ff.) apply. The plaintiff has no knowledge of specific acts of use by the defendant in Romania. However, the patent infringement described in the action (at least) in Germany gives rise to a risk of repetition or first-time infringement for the entire EU internal market. The defendant's submission on international advertising in the context of alleged prior use (KE 350 et seq., 379 et seq., 391–403) confirms this. The defendant cannot claim, on the one hand, to have always operated internationally and, on the other hand, to claim that there is no risk of repetition outside Germany (KE 468).

Defendant: Rejoinder dated 14 March 2025, para. 13

With regard to non-infringement in France, Italy and Romania, we refer to our comments in section D. The plaintiff has not proven any of the alleged acts of use for these countries. We reserve the right to make further submissions

in the event of a limitation of the patent in suit, whereby the comments on the German proceedings apply mutatis mutandis (see section II below).

Defendant: Rejoinder of 14 March 2025, paras. 117-179

The plaintiff also believes that a risk of infringement or repetition could justify an injunction for each Member State in which the patent in suit is in force (see RP p. 63, section b)). We disagree with this. The plaintiff overlooks the fact that the mere entry into force of a patent in another Member State does not indicate a risk of infringement or repetition. Rather, as in other cases, proof of a concrete risk must be provided by the plaintiff, who bears the burden of presentation and proof in this regard. However, there is neither an admissible submission nor suitable evidence to this effect (see KE p. 124 f. item VI.). In particular, all deliveries to Germany cited by the plaintiff as evidence of infringement are covered by a prior use right and are therefore not unlawful. These actions are therefore not a suitable basis for establishing a risk of infringement or even a risk of repetition for all alleged acts of use in all member states asserted (see, for example, BGH GRUR 2021, 971 – myboshi, para. 19:

"The claim for injunctive relief based on the risk of repetition and directed towards the future ... only exists if the actions complained of ... were unlawful"). In the absence of a risk of commission or repetition, a conviction of the defendant is therefore ruled out altogether. Finally, the presumption of such a risk cannot exist because the scope of protection between the intellectual property rights of the individual Member States is not identical. An act that is lawful in Germany, for example, due to the limited scope of protection, cannot constitute a risk of unlawful use

in another Member State. The basis for assuming a risk of infringement must always be the illegality of the established act and — within the framework of the EPC — an identical scope of protection for the asserted parts of a European patent. Irrespective of this, the defendant argues that the alleged manufacturing takes place in Italy, France and Romania. It is undisputed that the defendant does not maintain any production facilities for the sintered pastes at issue in these countries, which is why a ruling on this act of use is ruled out for this reason alone (see KE p. 125, para. 469).

Plaintiff: Written statement of 22 April 2025, para. 168

It is undisputed that the defendant has not carried out any activities in Romania.

- 2. The plaintiff has therefore not presented any specific acts of infringement by the defendant outside Germany.
- a. The plaintiff expressly conceded this for Romania in its written statement of 22 April 2025.
- b. Contrary to the plaintiff's opinion, a more positive outcome cannot be inferred for France and Italy from the fact that the defendant did not dispute the following statement: "Incidentally, the defendant is part of a global corporation that also lists locations in France and Italy on its website; the relevant industry here operates across borders."

According to Rule 181.2 of the Rules of Procedure, factual assertions that have not been specifically contested by either party are deemed to be undisputed between the parties. In this respect, however, it also applies that a party making a factual assertion must substantiate it in the required form if it is contested

or is likely to be disputed. This obligation to facilitate proceedings follows from paragraph 7 of the preamble to the Rules of Procedure. According to this, the proceedings must be conducted in such a way that the final oral hearing on infringement and legal validity in the first instance can normally take place within one year. Accordingly, R. 171.1 RoP provides that a party making a factual assertion that is contested or likely to be contested by another party must provide evidence for that assertion. The same must apply to the substantiation of the statement of facts (Court of Appeal, decision of 3 October 2025, UPC_CoA_534/2024 and 19/2025 and 683/2024, para. 212).

This has not happened in the present case. Even if this assertion were true, the Chamber is unable to determine that and which specific act of use concerning which specific product was carried out in France and/or Italy by the defendant and not by another company belonging to the group.

Finally, the plaintiff cannot derive any risk of infringement from the defendant's submission regarding prior acts of use. On the one hand, it has contested this submission and has therefore not adopted it as its own. On the other hand, acts prior to the grant of the patent are lawful and cannot give rise to a risk of infringement for the period after the patent was granted.

3. It can therefore be left open whether the defendant is also entitled to a private prior use right for France, Italy and Romania.

VII. Whether the objection of malicious intent and the objection of unlawful appropriation are valid can therefore also be left open.

C. Ancillary decisions

I. Amount in dispute

The parties have agreed to estimate the value in dispute of the claim and counterclaim at EUR 1 million each. During the oral proceedings, both parties vehemently opposed a 50 per cent increase in the value in dispute for the nullity proceedings in accordance with the guidelines. The Chamber sees no reason to intervene ex officio. Therefore, the total value in dispute in the present case is EUR 2 million.

II. Allocation of costs

The Chamber assesses the mutual success and failure as 60 per cent to 40 per cent at the expense of the plaintiff. The infringement action was dismissed in its entirety. The counterclaim for nullity was only partially dismissed. The patent in dispute remains in force in the version of the Federal Patent Court's judgment in all contracting member states involved in the dispute. No restriction has been imposed with regard to the Federal Republic of Germany. With regard to the other states, a restriction has been imposed on the version of the Federal Patent Court. The Chamber therefore assesses the defendant's partial defeat at 40 per cent in relation to the entire proceedings.

III. Further motions and late submissions

Due to this outcome, the further motions and the question of rejecting any late submissions do not require a decision (R. 334 RoP.).

DECISION

- 1. The continuation of the proceedings with regard to the counterclaim for revocation is precluded by an absolute procedural obstacle insofar as the Federal Patent Court, in its judgment of 7 November 2023, ruled with legal effect on the ground for revocation of lack of patentability under Art. 138(1)(a), Articles 52–57 EPC with regard to the German part of the contested patent. Otherwise, there is no absolute procedural obstacle.
- 2. European patent 3 215 288 is declared invalid with effect for the French Republic, the Italian Republic and Romania insofar as its subject matter extends beyond the following wording of claims 1 to 8:
 - 1. <u>Use of a metal sintering preparation for the permanent joining of components, wherein the metal sintering preparation (A)</u> comprises 50 to 90% by weight of at least one metal selected from the group consisting of copper, silver, gold, nickel, palladium, platinum and aluminium, which is present in the form of particles, wherein the metal particles have the form of flakes or an irregular shape, wherein the metal particles have a coating which contains at least one organic compound selected from the group consisting of free fatty acids, fatty acid salts and fatty acid esters, and (B) 6 to 50% by weight of one or more organic solvents selected from the group consisting of terpineols, N-methyl-2-pyrrolidone, ethylene glycol, dimethylacetamide, 1-tridecanol, 2-tridecanol, 3-tridecanol, 4-tridecanol, 5-tridecanol, 6-tridecanol, isotridecanol, unsubstituted 1-hydroxy-C16C20-alkanes with the exception of methyl substitution on the penultimate C atom, dibasic esters, glycerine, diethylene glycol, triethylene glycol and aliphatic hydrocarbons with 5 to 32 C atoms,

characterised in that

- 2. <u>Use of</u> a metal sinter preparation according to claim 1 <u>for firmly joining components</u>, wherein the mathematical product of the tamping density, determined in accordance with DIN EN ISO 787-11: 1995-10, and the specific surface area, determined in accordance with DIN ISO 9277: 2014-01, of the metal particles of component (A) is in the range from 50,000 to 70,000 cm (-1).
- 3. <u>Use of a metal sinter preparation according to claim 1 or 2 for firmly joining components, comprising one, two or more different types of metal particles.</u>

- 4. Metal sintering preparation according to one of the preceding claims, wherein the metal particles have the form of flakes or an irregular shape.
- 54. <u>Use of a metal sintering preparation according to one of the preceding claims for firmly joining components, containing, in addition to the components (A) and (B), 0 to 12 wt.% of at least one metal precursor (C), 0 to 10 wt.% of at least one sintering aid (D) and 0 to 15 wt.% of one or more further ingredients (E) selected from dispersants, surfactants, defoamers, binders, polymers and/or viscosity-controlling</u>

agents.

- 65. Method for joining components, comprising (a) providing a sandwich assembly comprising at least (a1) a component 1, (a2) a component 2 and (a3) a metal sinter preparation according to one of the preceding claims, which is located between component 1 and component 2, and (b) sintering the sandwich assembly.
- 76. Method according to claim 65, wherein at least one of the components 1 and 2 has an aluminium or copper contact surface over which the sandwich assembly is formed.
- 87. Method according to claim 65 or 76, wherein sintering is carried out under pressure or without pressure.
- 98. Method according to one of claims 65 to 78, wherein the components are parts used in electronics.
- 3. In all other respects, the counterclaim for annulment is dismissed.
- 4. The action for damages is dismissed.
- 5. All other pending motions are dismissed.
- 6. The defendant shall bear 40 per cent of the costs of the proceedings and the claimant shall bear 60 per cent.
- 7. The value in dispute of the infringement action is set at EUR 1 million.
- 8. The value in dispute of the counterclaim for annulment is set at EUR 1 million.
- 9. The value of the proceedings is set at EUR 2 million.

SIGNED IN MUNICH:

Dr Zigann Presiding Judge	Matthias Digitally signed by Matthias ZIGANN Date: 2025.10.08 10:08:30 +02'00'		
Brinkman Legally qualified judge	EdgerFrank Digitally signed by Edger Frank BRINKMAN BRINKMAN Date: 8 October 2025 11:04:31 +02'00'		
Pichlmaier Legally qualified judge	Tobias Günther Digitally signed by Tobias Günther Pichlmaier Pichlmaier Date: 08/10/2025 10:45:25 +02'00'		
Dr Ashley Technically qualified judge	Graham WilliamAshley Digitally signed by Graham William Ashley Date: 09/10/2025 10:10:21 +02'00'		
For the Deputy Registrar	Anja Digitally signed by Anja Mittermeier Date: 10 October 2025 10:26:28 +02'00'		

ANNOUNCED IN MUNICH ON 10 OCTOBER 2025

Matthias ZIGANN

Digitally signed by Matthias ZIGANN Date: 10 October 2025 13:08:15 +02'00'

Dr Zigann Presiding Judge

INFORMATION ON THE APPEAL

Any party whose claims have been rejected in whole or in part may appeal against this decision within two months of its notification to the Court of Appeal (Art. 73(1) EPC, R. 220.1(a), 224.1(a) RPO).

ENFORCEMENT INFORMATION

(ART. 82 EPCU, ART. ART. 37(2) EPGS, R. 118.8, 158.2, 354, 355.4 RPC)

A certified copy of the enforceable decision or enforceable order shall be issued by the Registrar at the request of the enforcing party, R. 69 RegR.

INSTRUCTIONS TO THE REGISTRY

Once the decision has become final, copies of the judgment shall be sent to the European Patent Office, the Institut National de la Propriété Industrielle (FR), the Ufficio Italiano Brevetti e Marchi (IT) and the Oficiul de Stat pentru Invenții și Mărci (RO).