

**Keywords: abstract idea, prior art, patent-eligible, improved, detection system**

**General: An improved result, without more stated in the claim, is not enough to confer eligibility to an otherwise abstract idea. To be patent-eligible, the claims must recite a specific means or method that solves a problem in an existing technological process.**

*Koninklijke KPN N.V. v. Gemalto M2M GmbH, Gemalto Inc., etc.*

United States Court of Appeals for the Federal Circuit

No. 2018-1863, 2018-1864, 2018-1865

Decided November 15, 2019

**I. Background and Facts**

KPN is a large Dutch telecom who owns U.S. Patent No. 6,212,662 (“the ‘662 patent”) that generally relates to a method and devices for the detection of errors, in particular transmission errors, in data streams and/or data packets. In data transmission systems, it is common to generate “check data” to check whether data was accurately transmitted over a communications channel. Check data is generated based on the original data and serves as a shorthand representation of the original data. By comparing the check data generated at both ends of the communication channel, error detection systems may be able to infer whether errors occurred during transmission. The ‘662 patent is directed to the problem of generating functions that coincidentally produce the same check data for a corrupted data block and an uncorrupted data block and describes varying the way check data is generated by adjusting a permutation applied to different data blocks (in place of applying a fixed generating function).

KPN sued Gemalto M2M GmbH, Gemalto Inc., etc. (collectively “Appellees”) for infringement of the ‘662 patent in the United States District Court for the District of Delaware. Appellees moved for judgment on the pleadings under Federal Rule of Civil Procedure 12(c) alleging that all four claims (claims 1-4) of the ‘662 patent were ineligible under 35 U.S.C. § 101. Claims 1-4 of the ‘662 patent are set forth below:

1. A device for producing error checking based on original data provided in blocks with each block having plural bits in a particular ordered sequence, comprising:
  - a generating device configured to generate check data; and
  - a varying device configured to vary original data prior to supplying said original data to the generating device as varied data;wherein said varying device includes a permutating device configured to perform a permutation of bit position relative to said particular ordered sequence for at least some of the bits in each of said blocks making up said original data without reordering any blocks of original data.
2. The device according to claim 1, wherein the varying device is further configured to modify the permutation in time.
3. The device according to claim 2, wherein the varying is further configured to modify the permutation based on the original data.

4. The device according to claim 3, wherein the permutating device includes a table in which subsequent permutations are stored.

The district court review the claims under step one of *Alice* and concluded that the claims recite no more than mere abstract data manipulation operations, such as "reordering data and generating additional data." In applying step two of *Alice*, the district court noted that while the specification may disclose an eligible invention, the purported inventive concept was not captured in the claims (i.e., that the claims were drafted at too abstract a level). As such, the district court sided with the defendants in this case — finding KPN's patent claims ineligible under 35 U.S.C. 101.

## II. Issues

Did the district court err in concluding that the claims are ineligible for patentability because they are merely directed to the abstract idea of data manipulation?

## III. Discussion

Yes. On appeal, KPN only challenged the district court's ineligibility decision with respect to dependent claims 2-4, having statutorily disclaimed claim 1 for reasons unrelated to the appeal. The court undertook its own analysis and in conjunction with step one of *Alice*, the court reviewed previous software cases that were found to be patent eligible (when they made non-abstract improvements to existing technological processes and computer technology). The court noted that an improved result alone is not enough to confer eligibility to an otherwise abstract idea; the claims must recite a specific means or method that solves a problem in an existing technological process.

Applying these concepts, the court concluded that claims 2-4 were patent eligible because rather than being merely directed to the abstract idea of data manipulation, the appealed claims are directed to a non-abstract improvement in an existing technological process (i.e., error checking in data transmissions). Additionally, by reciting that the permutation applied to original data be modified "in time," there is a specific implementation in the claims of varying the way check data is generated that improves the ability of prior art error detection systems to detect systematic errors (i.e., a specific means or method that solves a problem in an existing technological process).

Appellees argued that the claims were ineligible because the result was simply data, i.e., the claims did not require an application step that uses the generated check data to actually perform error detection. The Appellees further argued that without this last step tying the claims to a 'concrete application,' the claims are doomed to abstraction. The court rejected these arguments, holding that claims that are directed toward an improving the functionality of a tool (an error checking device) that is part of a system (a data transmission error detection system) do not necessarily need to recite how that tool is applied in the overall system (e.g., to perform error detection) in order to constitute a technological improvement that is patent-eligible. Instead, to determine whether claims are non-abstract, the more relevant inquiry is whether the claims focus on a specific means or method that improves the

relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke processes and machinery. As the present claims recite a sufficiently specific implementation (i.e., modifying the permutation applied to the original data “in time”) of an existing tool (i.e., check data generating device) that improves the functioning of the overall technological process of detecting systematic errors in data transmissions, they are patent eligible and the step two analysis under *Alice* was deemed to be unnecessary.

**IV. Conclusion**

The court reversed the District Court decision, holding that the asserted claims on appear are not directed to an abstract idea. The court ruled that in this patent infringement action, claims 2-4 of the '662 patent were patent-eligible because they were directed to a non-abstract improvement in an existing technological process (i.e., error checking in data transmissions). By requiring that the permutation applied to original data be modified "in time," claim 2, which was incorporated into all appealed claims, recited a specific implementation of varying the way check data was generated that improved the ability of prior art error detection systems to detect systematic errors.

**V. Note**

The court focused on what the patentee claimed to be their improvement within the patent document:

*The claims sufficiently capture the inventors' asserted technical contribution to the prior art by reciting how the solution specifically improves the function of prior art error detection systems.*

In this case, the specification identifies the prior art approach and its deficiencies and then explains how the invention is an improvement over the prior art. That approach appears to have saved-the-day for the patentee in this case.