

In T.1814/07 the application related to an automated collection and analysis patient care system and method for ordering and prioritising multiple health disorders to identify an index disorder. The board held that if a mathematical method is used in a technical process, and this process is carried out on a physical entity by some technical means implementing the method and provides as its result a change in that entity, it contributes to the technical character of the invention as a whole.

In T.2418/12 an algorithm suggested related terms. This was considered not to be a technical problem; whether terms were "related" to each other was a cognitive or linguistic matter and not a technical issue (T.1358/09, T.2230/10, T.2439/11). This was in line with the case law of the boards of appeal, which generally holds that **algorithmic efficiency** is not a technical effect (cf. T.1784/06, T.42/10, T.1370/11).

#### a) Design

In T.471/05 the main request was directed to a method of designing an optical system, the method consisting essentially of designing the optical system so that substantially all light rays imaged by the optical system between two predetermined points on the optical axis of the system satisfied the algebraic condition specified in the claim. The board held that the claim merely formulated a series of mathematical and optical abstract concepts without properly requiring a physical, technical implementation. Neither the claimed design method nor the resulting "design" required a technical activity or a technical entity. It followed that the subject-matter was the "mere design" of an optical system and encompassed purely abstract and conceptual implementations. More particularly, the claimed method could be carried out as a purely mental act or as a purely mathematical design algorithm.

In T.835/10 the board held that "de-automating" or undoing (in a computer-implemented method) the automation performed by a prior art software – could not in general be considered to be inventive. In particular, the board could not see an inventive activity in leaving the optimisation task mainly to the designer and providing him with the necessary aid to perform that task (reporting the evaluation parameters for the current design and providing him with a GUI for modifying the design).

#### b) Simulations

In T.1227/05 (OJ 2007, 574) the board came to the conclusion that the claimed numerical simulation of a noise-affected circuit described by a model featuring input channels, noise input channels and output channels and a system of differential or algebraic differential equations was a functional technical feature. This simulation constituted an adequately defined technical purpose for a computer-implemented method functionally limited to that purpose. The board held that specific technical applications of computer-implemented simulation methods were themselves to be regarded as modern technical methods which formed an essential part of the fabrication process and preceded actual production, mostly as an intermediate step. In that light, such simulation methods could not be denied a technical effect merely on the ground that they did not yet incorporate the physical end product.