



## The law

- 4 Section 1 of the Act sets out the requirements that an invention must fulfil for it to be patentable including, in section 1(2), a list of things for which patent protection is not available. The relevant parts of section 1(2) read:

1(2) It is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of –

(a) ....

(b) ....

(c) a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer;

(d) ....

but the foregoing provision shall prevent anything from being treated as an invention for the purpose of this Act only to the extent that a patent or application for a patent relates to that thing as such.

- 5 At the Hearing Mr Finnie agreed that the test for deciding whether an invention is excluded is set out by the Court of Appeal in its judgment in *Aerotel/Macrossan*<sup>1</sup> and further elaborated in the case of *Symbian*<sup>2</sup>.

- 6 The *Aerotel/Macrossan* test comprises four steps:

(1) properly construe the claim;

(2) identify the actual contribution;

(3) ask whether it falls solely within the excluded subject matter;

(4) check whether the actual or alleged contribution is actually technical in nature.

- 7 In *Symbian* the Court held that this was this test was equivalent to identifying a “technical contribution” for an invention to be considered patentable.

## The application

- 8 The application relates to a computer implemented method for optimizing a manufacturing schedule. The system is applicable to a manufacturing system where there are a number of items to be manufactured. The method generates a number of possible schedules and then selects a schedule which acceptably reduces costs.

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<sup>1</sup> *Aerotel Ltd v Telco Holdings Ltd Macrossan's Patent Application* [2007] RPC 7

<sup>2</sup> *Symbian v Comptroller General of Patents* [2008] EWCA Civ 1066

9 The claims under consideration were filed on 14 September 2009. There are three independent claims. Claim 1 reads:

1. A computer implemented method for generating a manufacturing schedule for a manufacturing process for manufacturing a plurality of items, the schedule comprising a series of runs of different items, the method comprising the steps of:

a. determining costs associated with switching the manufacturing process between different items;

b. determining a set of costs associated with an inventory level for each item deviating outside predefined parameters associated with a demand forecast;

c. determining a set of costs associated with a customer order being delivered outside of a delivery date;

d. determining a set of production costs; and

e. for an initial manufacturing schedule , carrying out the following steps:

(i) determine the cost of said modified manufacturing schedule based on the costs determined in steps (a) to (d)

(ii) modify the runs of said manufacturing schedule to create a modified manufacturing schedule;

(iii) determine the cost of said modified manufacturing schedule based on the costs determined in steps (a) to (d);

(iv) if the cost of said modified manufacturing schedule is less than the cost of said manufacturing schedule, then adopt said modified manufacturing schedule as the manufacturing schedule; and

(v) repeat steps (ii) to (iv) iteratively until the manufacturing schedule acceptably minimises the determined cost.

10 The second independent claim, claim 2, is a method of manufacturing a plurality of items including the method of generating a manufacturing schedule, the method being the same as the method of claim 1. The third independent claim, claim 41, is a system for generating a manufacturing schedule for a manufacturing process for manufacturing a plurality of items, the system incorporating of the method of claim 1. Although these claims are worded so as to claim a method, a manufacturing process and a system the contribution made is the same for each claim.

### **Argument and analysis**

- 11 As the test set out in *Aerotel/Macrossan* is clearly set out in four steps I will consider each step in turn.

#### **Step 1: Properly construe the claims**

- 12 There are no difficulties of construction, the claims are clear and there is no need to discuss them here in any greater detail.

#### **Step 2: Identify the actual contribution**

- 13 In his examination report the examiner identified the contribution as being 'automatically producing optimal manufacturing schedules'. Mr Finnie argued that the contribution was more than that. He argued that the contribution lay in the balancing of three conflicting policy demands of minimizing inventory deviations, maximizing customer service and maximizing production efficiency to achieve an optimized schedule. At the hearing he further argued that the invention was a simulation which allowed a number of possible schedules to be simulated very quickly, far more so that could ever have been possibly manually or even with previous programs.
- 14 I am clear that the contribution made to the stock of knowledge by the inventor is the rapid production of a manufacturing schedule that minimizes costs to an acceptable level. This is the same contribution made by all three independent claims.

#### **Step 3: Does the contribution fall solely within the excluded subject matter?**

- 15 I find that the answer to this question is yes. The contribution made by the invention is an improved method of doing business which minimizes costs, and therefore presumably increases profits.
- 16 I accept that the computerized method of the invention will produce such schedules far more quickly than could ever be done manually. However, this does not change the nature of the contribution of the invention. The result of the invention is an improved method of doing business.

#### **Step 4: Is the contribution technical in nature?**

- 17 It was Mr Finnie's view that the examiner had not given due weight to the final step of the test and fully considered whether the contribution made was actually technical, despite being considered to fall within excluded matter.

- 18 Mr Finnie argued that the invention was technical in its nature and therefore succeeded in being patentable under step 4 of the test. The invention of the present application takes account of three conflicting objectives: minimizing inventory policy deviations, maximizing customer service and maximizing production efficiency. Mr Finnie argued that the faster iteration to find a schedule that took account of all three of these objectives and acceptably minimized costs was technical in nature. He argued that the result was a computer that rendered this solution more quickly than previously possible and that this was technical.
- 19 I disagree. The invention is not, as was the case under consideration in *Symbian*, solving a technical problem within the computer to make the computer run faster. It is a program which is implementing an improved business method. The three objectives being balanced by the method are purely business considerations. The computerized method is clearly far quicker than a manual method. However, this is a standard result of computerization and does not make the method itself technical in nature.
- 20 In *Symbian* the Court of Appeal indicated that the implementation of a business method, mental act or method of playing a game could not be deemed patentable merely because it was embodied with a computer program.

*It is also contended by the Comptroller that Symbian 's interpretation gives the computer program exclusion a very limited effect. That is true, but, if Symbian is right, the exclusion is far from deprived of any meaning. Thus, it might otherwise be argued that a program which related to a method of doing business, performing mental acts or playing games could be patented, because what was being sought was a patent for a program which was inventive, and the fact that it happened to embody a business method, performing a mental act or a game would not exclude it, because what was sought was not a patent for a business method, a mental act, or a game "as such", but for a program embodying the same.*

- 21 The program here is merely implementing the improved business method of the invention and this does not make a technical contribution.

### **Practice within the EPO**

- 22 At the hearing Mr Finnie argued strongly that the claims would be considered technical by the EPO, and that there was no reason for me to find them excluded.

- 23 Indeed the provisions of section 1(2) are designated in section 130(7) as being so framed as to have, as nearly as practicable, the same effect as the corresponding provisions of the European Patent Convention (EPC), i.e. Article 52. However, the decisions of the Boards of Appeal of the European Patent Office (EPO) under Article 52 of the EPC do not bind me. Further, whilst it is true that the EPO may find that the claims are technical in nature, possibly because they include a computer program, this does not mean that a patent for the current application would be granted in the EPO. The test applied in the EPO is different to that in the UK and an application may pass the hurdle of being considered technical by the EPO but still fail on the grounds of inventiveness, which is considered only in relation to the non-excluded matter.
- 24 In his skeleton arguments Mr Finnie referred me to a sentence in paragraph 61 of the decision in *Symbian* which reads ‘the fact that such discrepancies have been characterised as "absurd" by Nicholls LJ, and the reasoning in [3] of *Conor* emphasise the strong desirability of the approaches and principles in the two offices marching together as far as possible. This means that there is a need for a two-way dialogue between national tribunals and the EPO, coupled with a degree of mutual compromise.’ I am bound to follow the reasoning of the Court, but must here consider these sentences in their proper context. The full paragraph in *Symbian* in fact reads:
- It is, of course, inevitable that there will be cases where the EPO will grant patents in this field when UKIPO should not, at least so long as the view in Pension Benefit and Hitachi is applied by the Board and is not applied here. The fact that the two offices and their supervisory courts have their own responsibilities means that discrepancies, even in approach or principle, are occasionally inevitable. However, the fact that such discrepancies have been characterised as "absurd" by Nicholls LJ, and the reasoning in [3] of Conor emphasise the strong desirability of the approaches and principles in the two offices marching together as far as possible. This means that there is a need for a two-way dialogue between national tribunals and the EPO, coupled with a degree of mutual compromise. More directly relevant to the present appeal, it means that, where there may be a difference of approach or of principle, one must try to minimise the consequent differences in terms of the outcome in particular patent cases.*
- 25 This makes clear that it is accepted that there is not always going to be complete agreement on practice within the UK and the EPO and, whilst we must aim for consistency where possible, each case must be considered on its facts. Although not bound by such decisions they can be considered persuasive, although only within the boundaries set out by UK Courts.
- 26 Mr Finnie directly me to three particular cases from the EPO (T1227/05; T0914/02; T0471/05) which had been considered technical by the Board of Appeal. The test followed by the EPO is different to that followed in the UK. All three were published before the *Symbian* case. I am not persuaded that these cases assist in assessing the technical nature of the invention here.

- 27 The three cases all relate to simulation programs. At the hearing Mr Finnie described the invention within the application as a simulation. Although I note that it is not described as one within the application itself, I accept that invention could be considered to be a simulation. The present application performs a number of calculations on a number of options iteratively until the costs are reduced to a certain level. It simulates the results on the costs of manufacture of making changes to certain parameters. That is, it simulates the business implications of adopting differing business methods.
- 28 I note that T0914/02 and T0471/05 allow claims to what was previously considered a mental act purely on the basis of the addition of the phrase requiring the method be performed using a suitable programmed computer to provide a technical nature. This is not approved in *Symbian*.
- 29 In T1227/05 the Board held that a program for simulating a circuit was technical, provided the claims were functionally limited to that technical purpose. It gave a number of reasons for this, amongst them that the system allowed for the virtual testing and examination for suitability of circuits without the need for an expensive circuit fabrication process. The system solved a problem within the engineering field and the technical characteristics under consideration are not the same as in the present application.
- 30 More generally, these three cases relate to very different simulations to that of the present application. They are all simulations which can be used to identify improved results that are technical in nature; either a circuit that functions more effectively, a better optical lens system or an improved nuclear core reactor. These are very different to the present application. In the present application there is no change to the product produced, or the machinery producing the product. The method is purely aimed at balancing business objectives to use standard resources in the most cost effective manner. I do not find that consideration of these cases changes my view that the invention of the present application is not technical in nature.

### **Conclusion**

- 31 On following the steps set out in *Aerote*/I find that the invention defined by the current claims is excluded as a business method and a computer program. In the last examination report issued the examiner also reported that the invention related to a mental act. As I have found the invention to be excluded as a computer program and a business method I do not see the need to consider this issue further.

### **Saving amendments**

- 32 At the hearing Mr Finnie asked that, if I was unable to identify a technical contribution with the current claims, I consider certain other features as being potentially non-excluded. In particular he referred to the feature of including penalties within the simulation. This feature is currently in claim 14 and described in pages 17-23 of the specification.

- 33 The purpose of the penalties is to include consideration of further costs in relation to stock keeping when optimizing scheduling. Additional costs related to over-stocking or under-stocking are factored into the scheduling. The system can then penalize infeasible schedules, such as those where stock drops below zero.
- 34 I do not find a technical nature to the contribution here. Again the contribution is solely in the field of a method for doing business. The program provides a method for producing optimized schedules which take account of stock control factors. The problem to be solved is not a technical one. It is problem of maximizing efficiency and balancing various business policies. This additional feature merely factors in an additional business consideration in relation to the costs associated with stock levels.

### **Conclusion**

- 35 Having read the entire description I have been unable to identify any saving amendment that could form the basis of a patentable invention.
- 36 I therefore refuse the application as failing to comply with section 1(2).

### **Appeal**

- 37 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

**C L Witchard**

Deputy Director acting for the Comptroller