



## PATENTS ACT 1977

PARTIES	Hitachi, Ltd.
ISSUE	Whether patent application GB1820379.4 complies with Section 1(2) of the Patents Act 1977
HEARING OFFICER	Ben Buchanan

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### DECISION

#### Background

- 1 This decision relates to whether patent application GB1820379.4 complies with Section 1(2) of the Patents Act 1977 (“the Act”).
- 2 The application was filed on 14 December 2018 with a claim to a priority date of 15 December 2017. It was published as GB2570990A on 14 August 2019.
- 3 Although the applicant requested combined search and examination, no search of the application has been performed, the examiner instead reporting that search would serve no useful purpose under Section 17(5)(b). The reason for not performing the search was outlined in an abbreviated examination report dated 10 June 2019, which objected to the application on the basis that it was excluded from patentability under Sections 1(2)(c) and/or 1(2)(d) of the Act as nothing more than a method for doing business, a program for a computer and/or the presentation of information as such. Should I find that the application is not excluded, it will need to be resubmitted to the examiner for search and further prosecution.
- 4 Although the applicant has amended the application, the examiner has maintained his objection that the application is excluded. The agent’s letter of 21 April 2021 filed amendments which successfully overcame an objection to added matter raised previously. It included a request to be heard on the unresolved objection of excluded matter and was accompanied by the most recently amended claim set. The same claims were resubmitted along with skeleton arguments on 13 September.
- 5 Accordingly, the matter came before me for a hearing on 21 September 2021 at which the applicant was represented by Mr Furnival of their agent Mewburn Ellis.
- 6 The only matter which falls to be decided is whether or not the invention is excluded under Section 1(2) as being a method for doing business, a program for a computer and/or the presentation of information as such. In his letter of 21 July 2021 the examiner explained that his comments with regard to the presentation of information

relate only to the graphical display of the invention, which seems to be narrower than the contribution. I will only consider this point in detail, then, if the objections relating to the other two excluded categories fall away.

### Subject matter

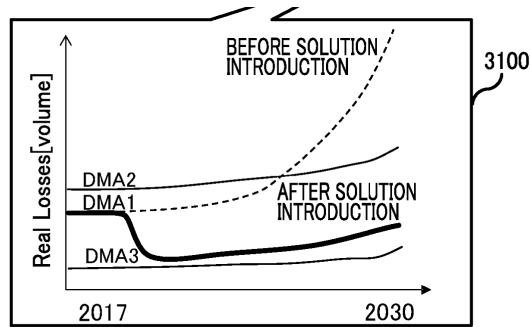
- 7 The application is titled “Water balance visualization system and water balance visualization method”. It relates to activities in the water supply industry and provides a visualisation of the demand for water and forecasts how that demand might change, for example as a consequence of increased population. The system includes in its calculation of demand the amount of water that is lost due to leakage. The meaning of “water balance” is not defined by the specification but it would seem to relate to the concept that within a system all water is accounted for, whether supplied, stored, consumed or lost. What goes out must balance what goes in.
- 8 Figure 2 (reproduced below) illustrates the factors that are taken into account in determining water consumption.

CONSTITUENT ELEMENT TABLE

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ELEMENT ID	ABBREVIATED DISPLAY NAME	LAYER	DISPLAY NAME
1	WS	0	Water Supply
11	AC	1	Authorized Consumption
12	WL	1	Water Loss
111	BAC	2	Billed Authorized Consumption
112	UBAC	2	Unbilled Authorized Consumption
121	AL	2	Apparent Losses
122	RL	2	Real Losses
1111	BMC	3	Metered Consumption
1112	BUC	3	Unmetered Consumption
1121	UMC	3	Metered Consumption
1122	UUC	3	Unmetered Consumption
1211	UC	3	Unauthorized Consumption
1212	CMI	3	Metered Inaccuracies
1213	DHE	3	Data Handling Error
1221	LST	3	Leakage and overflows at utility's storage tank
1222	LT&D+LSC	3	Leakage on transmission and / or distribution main + Leakage on service connection up to point of customer metering
2	RW	4	Revenue Water
3	NRW	4	Non Revenue Water
90	URL	999	Unavoidable Real Losses

- 9 As well as showing how much water is consumed and the proportion lost to leakage, the system further provides a prediction or forecast of how water lost to leakage may change as the demand increases and also as infrastructure equipment such as pipes and tanks age and deteriorate. This forecast for water loss can then be adjusted to take account of how replacement of equipment or similar maintenance operations will reduce the loss. In this way it provides some guidance as to how to prioritise improvements in infrastructure to minimise water wastage and also the timescale for such maintenance.
- 10 A section of figure 30 (reproduced below) illustrates how a particular planned future maintenance activity (“solution”) impacts on the predicted water loss.



## The law

- 11 The examiner raised an objection under Section 1(2) of the Act that the invention is not patentable because it relates to one or more categories of excluded matter. The relevant provisions of this section of the Act are shown below:

*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*

...

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

*(d) the presentation of information;*

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

- 12 The assessment of patentability under Section 1(2) is governed by the judgment of the Court of Appeal in *Aerotel*<sup>1</sup>, as further interpreted by the Court of Appeal in *Symbian*<sup>2</sup>. In *Aerotel* the court reviewed the case law on the interpretation of Section 1(2) and set out a four-step test to decide whether a claimed invention is patentable:

*(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.*

- 13 The Court of Appeal in *Symbian* made it clear that the four-step test in *Aerotel* was not intended to be a new departure in domestic law; it was confirmed that the test is consistent with the previous requirement set out in case law that the invention must provide a “technical contribution”. Paragraph 46 of *Aerotel* states that applying the

<sup>1</sup> *Aerotel Ltd v Telco Holdings Ltd & Ors* Rev 1 [2007] RPC 7

<sup>2</sup> *Symbian Ltd v Comptroller General of Patents* [2009] RPC 1

fourth step of the test may not be necessary because the third step should have covered the question of whether the contribution is technical in nature. It was further confirmed in *Symbian* that the question of whether the invention makes a technical contribution can take place at step 3 or 4.

- 14 Lewison J (as he then was) in *AT&T/CVON*<sup>3</sup> set out five signposts that he considered to be helpful when considering whether a computer program makes a technical contribution. In *HTC/Apple*<sup>4</sup> the signposts were reformulated slightly in light of the decision in *Gemstar*<sup>5</sup>. The signposts are:

- i) whether the claimed technical effect has a technical effect on a process which is carried on outside the computer*
- ii) whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run*
- iii) whether the claimed technical effect results in the computer being made to operate in a new way*
- iv) whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer*
- v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.*

### **Application of the Aerotel approach**

#### Step (1): Properly construe the claim

- 15 The latest claims are the amended claims filed on 21 April 2021 . There are two independent claims. Claim 1 is directed to a system and claim 5 to a method but they are otherwise substantially similar and it is only necessary to consider claim 1 as they will stand or fall together. Claim 1 reads as follows (with labels a-g added for ease of reference):

- 1. *A water balance visualization system comprising:*
    - a) *a storage device that stores information on details of consumption of water supplied by the water supply facility and information on solutions for improving predetermined events related to supply of the water when introduced to the water supply facility, the information on details of consumption defining elements including a supply volume of water by the water supply facility, a consumption mode, and a sub-mode of the consumption mode; and*
- an arithmetic device that performs*

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<sup>3</sup> *AT&T Knowledge Ventures/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat)

<sup>4</sup> *HTC v Apple* [2013] EWCA Civ 451

<sup>5</sup> *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2010] RPC 10

- b) *processing to generate, based on the information on details of consumption, graphic objects for the supply volume, a consumption volume of the water in the consumption mode, and a consumption volume in the sub-mode of the consumption mode, the graphic objects having sizes in accordance with the corresponding supply volume and consumption volumes,*
- c) *processing to output a screen in which the graphic objects are arranged according to layered structure of the elements defined in the information on details of consumption,*
- d) *processing to read a calculation formula for calculating effectiveness of introducing a certain solution specified by a predetermined terminal from the information on solutions and calculate the effectiveness of introducing the certain solution by assigning a variable in the calculation formula with a value of the consumption volume of a certain element corresponding to the variable, and*
- e) *processing to update the size of the graphic object for the certain element according to an increase or decrease in the water consumption volume of the certain element indicated by the calculated introduction effectiveness; wherein calculating the effectiveness of introducing the certain solution includes processing to calculate a respective evaluation index, each respective evaluation index being indicative of the effectiveness of introducing the certain solution in each of a plurality of supply areas supplied with water by the water supply facility;*

*wherein the arithmetic device further performs*

- f) *processing to determine a priority order of supply areas for introduction of the certain solution according to the sizes of the values of the respective evaluation indices, and*
- g) *processing to output a screen having results of the determination of the priority order.*

- 16 The system or method is clearly to be implemented on one or more computers and the computers and associated network hardware are not described as or claimed to be anything other than entirely conventional.
- 17 The “solutions” referred to are understood to be maintenance, repair or replacement operations for example of pipes or tanks. The terminal referred to at part (d) of claim 1 is a computer terminal by which a user may select a solution. The solutions are all known solutions stored in the system along with associated data, in particular the volume of water saved by implementing each solution.
- 18 There is a reference in the claims to a consumption mode and a sub-mode of the consumption mode. The consumption mode is understood to be the data describing how the water is consumed which the system uses to calculate the consumption volume. The examiner has noted in various correspondence that it is not clear what

a sub-mode is, and he speculated that it is a mode of water consumption associated with, or derived from, the consumption mode. My interpretation is consistent and is that the sub-modes are the modes of consumption and loss detailed in Figure 2 (see “Subject matter” above). Paragraphs [0016] - [0022] of the description refer to the details of consumption (including the concept of loss) for each of the consumption modes, according to the “layered structure” of the consumption modes. These seem to me to be the sub-modes defined in the claims.

- 19 The graphic objects of the claim are considered to be the bars of a bar graph, the sizes of these graphic objects representing supply volume and consumption volumes as at part (b) of claim 1. Figure 22 (reproduced below) shows a bar graph illustrating the potential savings in water consumption as a result of introducing solutions across each of the different district areas (DMAs).

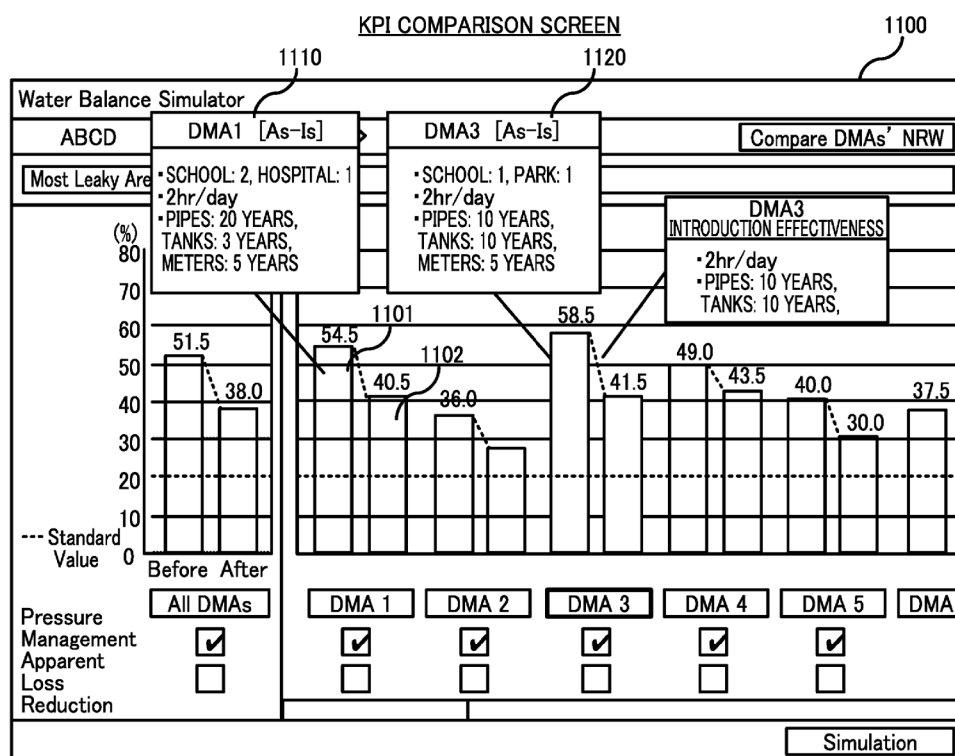


FIG.22

- 20 It was established at the hearing that the reference to a “certain solution” in the claims was to be read as *any given* solution, or a *specific* solution, and did not imply a definitive one of the solutions with a *certainty* of success. Having clarified the above features I do not consider that the claims present any difficulty in construction.

Step (2): Identify the alleged contribution

- 21 The process of identifying the contribution was summarised in paragraph 43 of *Aerotel/Macrossan* as follows:

*... it is an exercise in judgement probably involving the problem said to be solved, how the invention works, what its advantages are. What has the inventor really added to human knowledge perhaps best sums up the*

*exercise. The formulation involves looking at substance not form – which is surely what the legislator intended.*

- 22 The examiner has set out his assessment of the contribution in his pre-hearing report of 21 July 2021. Mr Furnival was content with the examiner's assessment of the contribution as far as it went, but suggested that it was also important that the contribution set out what the advantages of the invention were, being:

*“to facilitate more efficient management of the water supply facility as regards to any water losses in the water supply network.”*

- 23 In view of the comments regarding the contribution in *Aerotel/Macrossan* it is right to include this advantage (underlined below). Accordingly the alleged contribution is considered to be as follows:

*A computer implemented method, and associated computer application, which provides a graphical visualisation of water balance for a water supply facility to facilitate more efficient management of the water supply facility as regards to any water losses in the water supply network, the visualisation based on calculations using values from a storage device which stores information on the details of water consumption by supply facilities and information on proposed known solutions; the application enables a user to view the effectiveness of different known solutions when applied to water facilities and, for a plurality of supply areas, view a priority order of supply areas for introduction of a certain solution; in displaying solutions, graphic objects for the supply volume and consumption volume of the water for different operating modes are used, where the graphic objects have sizes in accordance with the corresponding supply volume and consumption volumes; in calculating the outcome of different solutions, evaluation indices calculated based on stored values are used and the size of the graphic objects are updated according to calculations.*

- 24 Whilst the above, which was agreed upon in the hearing, might be formulated more concisely, I am content that it reflects the key elements of the contribution of the claimed invention when put into effect.

Steps (3) & (4): Does the contribution fall solely within the excluded subject matter?: check if the contribution is actually technical.

- 25 The third and fourth steps of the *Aerotel* test involve considering whether the contribution falls solely within excluded categories, and then checking whether the contribution is technical in nature. It is appropriate to consider these two steps together because whether the contribution is technical in nature will have a direct impact on whether it falls solely within excluded matter.
- 26 The contribution is clearly implemented through the use of a computer program. However, the fact that the invention is effected in software does not mean that it should immediately be excluded as a program for a computer as such. In *Symbian*, the Court of Appeal stated that a computer program may not be excluded if it makes a technical contribution.

27 In order to decide whether the contribution is technical in nature I will consider the AT&T signposts.

*First signpost – whether the claimed technical effect has a technical effect on a process which is carried on outside the computer*

28 The arguments at the hearing were directed principally to the issue of whether or not there was a technical effect on a process carried on outside the computer. A number of office decisions and a court case were relied upon. It should be noted that while decisions of the Comptroller can be helpful, they are not binding upon me.

29 The first case that Mr Furnival referred to at the hearing was *Halliburton*<sup>6</sup>. *Halliburton* concerns whether or not a method of designing a drill bit is excluded from patentability. He referred in particular to Judge Birss' comments at paragraph 71 of that judgment where he said:

*71. That does not mean it is necessarily immune from the computer program exclusion but that is a different matter. Is it more than a computer program as such? The answer is plainly yes. It is a method of designing a drill bit. Such methods are not excluded from patentability by Section 1(2) and the contribution does not fall solely within the excluded territory. Drill bit design is not a business method, nor a scheme for playing a game nor (as I have held) is this claim a scheme for performing a mental act.*

30 Mr Furnival pointed to the fact that it was not deemed necessary in *Halliburton* for the method to be used to actually produce a tangible drill bit, it was enough that the method allowed for an improved drill bit to be manufactured. So, in the present case, he argued, although there is no step of improving the water supply facility, it nevertheless allows for the facility to be improved. It was also suggested that reducing water loss is a technical endeavour such that the claimed invention enabled technical improvements to be made. Mr Furnival also emphasised that the losses being reduced by the invention are water losses and not financial losses. Putting these two lines of argument together then, Mr Furnival asserted that the present invention provided a method and system for the purpose of reducing water loss through technical improvements, and that the omission of a step in the claims to actually reducing the loss in practice was inconsequential.

31 Whilst it is undoubtedly the case that some solutions for reducing water loss are indeed technical, I do not agree that the contribution of the present application necessarily derives any technical merit on the basis that it determines prioritisation of solutions relating to reducing water loss. The present invention is not concerned with reducing water loss *per se*; it is about indicating where to prioritise conventional improvements to most efficiently (i.e. cost effectively) reduce water loss. It is about prioritising limited financial resources to make improvements where they will have most benefit. To my mind that is not plainly more than a program for a computer (and/or a method for doing business), unlike designing a drill bit.

32 That said, I do agree that were the contribution to be to actually reduce water loss and to be carried out under the control of a computer, the step of tangibly reducing

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<sup>6</sup> *Haliburton Energy Services inc. v Comptroller General of Patents* [2011] EWHC 2508



the loss (e.g. by implementing the “solution” within the scope of the claim) may not be necessary, following *Halliburton*, to confer patentability. However, given the nature of the contribution, that point is moot here.

- 33 The next reference was to an office decision, *Ensign Advanced Systems Limited’s Application*<sup>7</sup>. That application related to the design of building services, such as hot and cold water, gas, electricity, etc., and in particular to a computer system for designing common supports for all such services. The invention solved the problem of separately designed service layouts being transferred to a common plan and resolving areas where conflicting supports may be located. The hearing officer in that case found the invention to be patentable as there was a technical effect based on the physical characteristics of the supports. Mr Furnival pointed out that the hearing officer did not think it necessary for the claim to refer to any particular physical characteristics of the supports in order to avoid the exclusion. By analogy he suggested that it was not necessary for the current invention to particularise the improvements. He also again stressed that *Ensign* did not rely on the actual making or installation of supports.
- 34 I do not see that this helps the applicant. Excluded matter cases are by their nature fact sensitive and this application is from a different field. It has similarities with *Halliburton* in that it relates to the engineering design of a specific physical entity, but that is not a similarity shared with the current application. The present application does not deal with the specific engineering design of a water loss reduction solution, it calculates the effectiveness of a certain (i.e. specified) solution, and the order of supply areas (e.g. districts) in which to implement the solution to minimise wastage. As identified in the contribution, the improvement is to efficiently managing the water supply facility and not its design.
- 35 The next decision referred to was *Fisher-Rosemount System Inc’s application*<sup>8</sup>, which relates to a system for managing chemical process control search results. In particular, it provides an improved system for searching for and extracting information relating to the operating state of some part of the chemical plant from a number of databases and displaying and dynamically updating that information. This application was allowed as the hearing officer considered there was a technical effect in giving visual indications automatically about the conditions prevailing in a process control system.
- 36 Mr Furnival drew attention to the contribution identified by the hearing officer in the decision which was as follows:

*Displaying process control search results including runtime data from a process controller, using a search index which is updated as the runtime data changes, so that the appropriate search results are automatically updated and displayed without re-running the search, the updated results providing more up-to-date runtime information to the operator for better management of the process control system.*

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<sup>7</sup> *Ensign Advanced Systems Limited’s Application* BL O/334/17

<sup>8</sup> *Fisher-Rosemount System Inc’s application* BL O/148/19

- 37 There are significant differences between the particular fields of *Fisher-Rosemount* and the current application. *Fisher-Rosemount* concerns control of a chemical plant or process, and relies upon real time data, the provision of which is improved. The present claimed invention, in contrast, concerns planning and prioritising investment in a water supply facility based upon predetermined, stored data. Mr Furnival sought to persuade me that the decision to prioritise a certain solution by supply area in the present invention amounted to improved process control. I think this is stretching any analogy too far. In *Fisher-Rosemount* the system is automatically updated to provide real-time information based on real-time data, and this was the basis for the technical effect identified by the hearing officer. This is apparent from the contribution which refers to *runtime data ... automatically updated to provide up-to-date runtime information*. The present application does not provide such automatically updated information based upon real-time data. On the facts, then, *Fisher-Rosemount* is not indicative of the present invention providing a similar technical effect.
- 38 The hearing officer in *Fisher-Rosemount* refers to a previous office decision, *Landmark Graphics Corporation's application*<sup>9</sup> and this latter decision was also referred to by Mr Furnival at the hearing.
- 39 The decision in *Landmark Graphics* covers a number of applications all related to providing visual representations of subterranean geology and all of which were found to be patentable. At paragraph 27 of that decision and referred to at paragraph 44 of *Fisher-Rosemount*, the hearing officer stated (referring to the judgement in *Halliburton*):

27. *Even though it seems that the applicant, Halliburton, may not have been the first to invent a computer-implemented method for designing drill bits per se, it seems from this judgement that one can take a step back from the actual advance over the state of the art when assessing the contribution for the purpose of section 1(2) and simply identify the field of endeavour in which the method is applied. In other words, it might not be necessary to conduct a forensic analysis of the difference between the invention and the prior art in order to assess what the inventor has really added to human knowledge when it is clear that the invention is limited to a very specific task or application that is not itself excluded. The fact that one can specify precisely the difference between the invention and the state of the art within a description of the actual contribution does not alter the fact that a contribution is also made within a general field of endeavour if the invention is claimed and limited in such a way. If that field of endeavour is a technical one then, according to Halliburton, there is a reasonable chance of it being a patentable invention under section 1(2). For computer-implemented inventions such as the ones in Halliburton and Vicom, it can be sufficient to determine whether the general task performed by the computer program is external to the computer and does not fall within one of the excluded areas in order to conclude that a technical contribution has been revealed. For other computer-implemented inventions, where the task performed by the program is limited entirely to what is going on inside the computer, an invention can be patentable if it solves a technical problem relating to the running of computers generally.*

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<sup>9</sup> *Landmark Graphics Corporation's applications* BL O/112/18

- 40 In summary, in *Landmark Graphics* the hearing officer suggests that, provided the field of endeavour is a technical one and the claim is limited to that field of endeavour, then the invention may be patentable.
- 41 Mr Furnival relied upon this to argue that because water supply is a technical field, and that is the field of endeavour of the current invention, then, applying the above reasoning, the invention should be patentable.
- 42 I agree that the process of actually supplying water is probably technical. However, I do not think that water supply in such general terms is the field of endeavour of the present claimed invention or that by extension the present invention is necessarily technical. As the claim makes clear, the current field of endeavour is visualising water balance in different scenarios (to which the claim is limited), which might extend to managing the supply when the invention is put into effect. Managing, in this context, means planning and investing in infrastructure on the basis of determined prioritisation, not the step of controlling the flow of the supply to meet demand which is several steps removed. As previously stated, the present invention does not provide a technical improvement to the issue of water loss, it proposes a prioritised order for infrastructure investment by supply area. In so far as that constitutes “water supply”, it is a management function, which is the field of endeavour of this invention and is not technical.
- 43 The final case referred to at the hearing was *Hitachi Limited’s application*<sup>10</sup>. That application was directed to managing a construction site and in particular to automatically scanning a construction site, identifying congested areas based on the scan and generating a warning if the congestion exceeds a predetermined threshold. A user can modify activities to avoid the congested area. This application was allowed at least partly because the generation of the warning was considered technical and parallels were drawn with the reasoning in *PKTWO*<sup>11</sup>.
- 44 Mr Furnival proposed that the generation of a priority order in the current application was akin to the generation of a warning and so the application should be allowed. I do not agree with that suggestion. The warning of *Hitachi* (such as it is) and *PKTWO*, as with warnings in general, are intended to alert a user (who would otherwise be unaware) to a particular situation. The present invention generates its priority list however inconsequential or unnecessary any improvements may be based upon a user selecting the “certain solution”. There is no suggestion that it provides an alert or a warning when an improvement must be made imminently or to avoid a dangerous situation occurring, or even a failure for supply to meet demand. Rather, the objective is to prioritise the way to minimise water wastage within controlled costs. As far as the user of the system is aware, and as far as I am concerned, the prioritised list is a recommendation on which to base investment decisions, not an alert or warning. On that basis I do not consider that *Hitachi* referenced (or *PKTWO*) assists the applicant.

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<sup>10</sup> *Hitachi Limited’s application* BL O/809/18

<sup>11</sup> *Protecting Kids the World Over (PKTWO) Ltd’s Patent Application [2011] EWHC 2720 (Pat); [2012] RPC 13*

- 45 For the reasons given, having carefully considered the arguments and the office decisions and precedent case referred to by Mr Furnival, I am not persuaded that any of these help advance the applicant's case.
- 46 In summary, with regard to the first signpost, Mr Furnival argued that the invention provides an effect on a process outside the computer including displaying information on a screen, which a user can use to make better decisions about implementing solutions and the result is a better, more efficient water supply management facility.
- 47 In as much as the computer program can be said to have an effect outside the computer, that effect is limited to managing investment in a water supply facility. I consider that such an effect is not a technical effect because the prioritisation of resources by supply area is not technical, and a decision taken on the basis of the determined priority displayed on a screen would improve the financial efficiency of the management of the water supply but not inherently the water supply (or its control) itself.
- 48 No specific arguments with regard to the second to fifth signposts were made at the hearing, so I shall consider them briefly:

*Second signpost - whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run*

*Third signpost - whether the claimed technical effect results in the computer being made to operate in a new way*

*Fourth signpost - whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer*

- 49 These signposts are all directed to determining whether or not an invention makes a computer a *better* computer to the extent that the invention is not just a program for a computer as such.
- 50 No suggestion has been made that the software application implemented by the present claimed invention makes the computer running it a *better* computer. The invention is clearly a specific application, processing specific data, to be run on any conventional computer with no effect on the way the computer itself operates. None of these signposts point to a technical effect in the application.

*Fifth signpost - whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented*

- 51 The fifth signpost deals with whether or not the invention overcomes a problem or merely circumvents it. A solution may derive technical character from a technical problem. I do not consider that the application relates to a technical problem. It solves a business problem regarding how best to invest in infrastructure improvements. It does this by producing a visualisation of water balance for the purpose of aiding resource planning.

- 52 This signpost also does not help the applicant as it does not point towards any technical effect in the application.
- 53 Having considered all of the signposts, I can identify no indication that the contribution is technical in nature. Having fully considered the issue, I therefore find that the invention relates to a program for a computer as such.
- 54 The examiner has also objected that the invention relates to a method for doing business. It may well provide a better tool to aid decision-making, and thereby assist the management of a water supply facility. However, as noted above, the decisions made relate to prioritising investment in infrastructure and do not appear to lead to an improved technical implementation.
- 55 At paragraph 35 of *Halliburton*, Birss J stated:

*The business method cases can be tricky to analyse by just asking whether the invention has a technical effect or makes a technical contribution. The reason is that computers are self-evidently technical in nature. Thus when a business method is implemented on a computer, the patentee has a rich vein of arguments to deploy in seeking to contend that his invention gives rise to a technical effect or makes a technical contribution... That means that some apparently technical effects do not always count. So a computer programmed to be a better computer is patentable (Symbian) but as Fox LJ pointed out in relation to the business method exclusion in Merrill Lynch, the fact that the method of doing business may be an improvement on previous methods is immaterial because the business method exclusion is generic.*

- 56 Mr Furnival did not argue extensively that the business method exclusion was avoided, other than by implication following his arguments to date. Nonetheless he did emphasise that parameters such as pipe or tank age within the infrastructure could be taken into account or where not known, calculated. These technical considerations would feed into the prioritisation and decision-making. This may be true, but I return to the point above. The present system and its outputs provide improved prioritisation and decisions on the basis of characteristics of the facility. However, any effects arising are not technical in nature; they are not technical improvements (e.g. better pipes and tanks) nor are they in any technical field. Rather, the alleged improvement arising from the invention when put into effect is improved administration in the management of a water supply facility and therefore falls solely within a method for doing business
- 57 For the avoidance of doubt, I consider that the contribution as I have identified it is more than the presentation of information as such, but I agree with the examiner that no technical character is conferred by the display of graphic objects on a screen.

## **Summary**

- 58 I have considered all the arguments put to me at the hearing, but I cannot see anything which can be considered a technical effect in the application as a whole.

- 59 Although I have analysed the invention on the basis of the system of claim 1, my reasoning applies by extension to claim 5. I do not find any technical effect in any of the remaining claims nor has any been brought to my attention.
- 60 The invention is considered to be a program for a computer as such; any effect arising outside the computer lying solely within the field of a method for doing business. As such I find that the application is excluded from patentability under Section 1(2)(c).

### **Conclusion**

- 61 Since the invention fails to comply with Section 1(2)(c) of the Act, the application is refused under Section 18 of the Act.

### **Appeal**

- 62 Any appeal must be lodged within 28 days after the date of this decision.

**BEN BUCHANAN**