



## PATENTS ACT 1977

APPLICANT Fisher-Rosemount Systems, Inc.

ISSUE Whether patent application numbers  
GB1015890.5 and GB1019647.5 comply  
with section 1(2)

HEARING OFFICER H Jones

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### DECISION

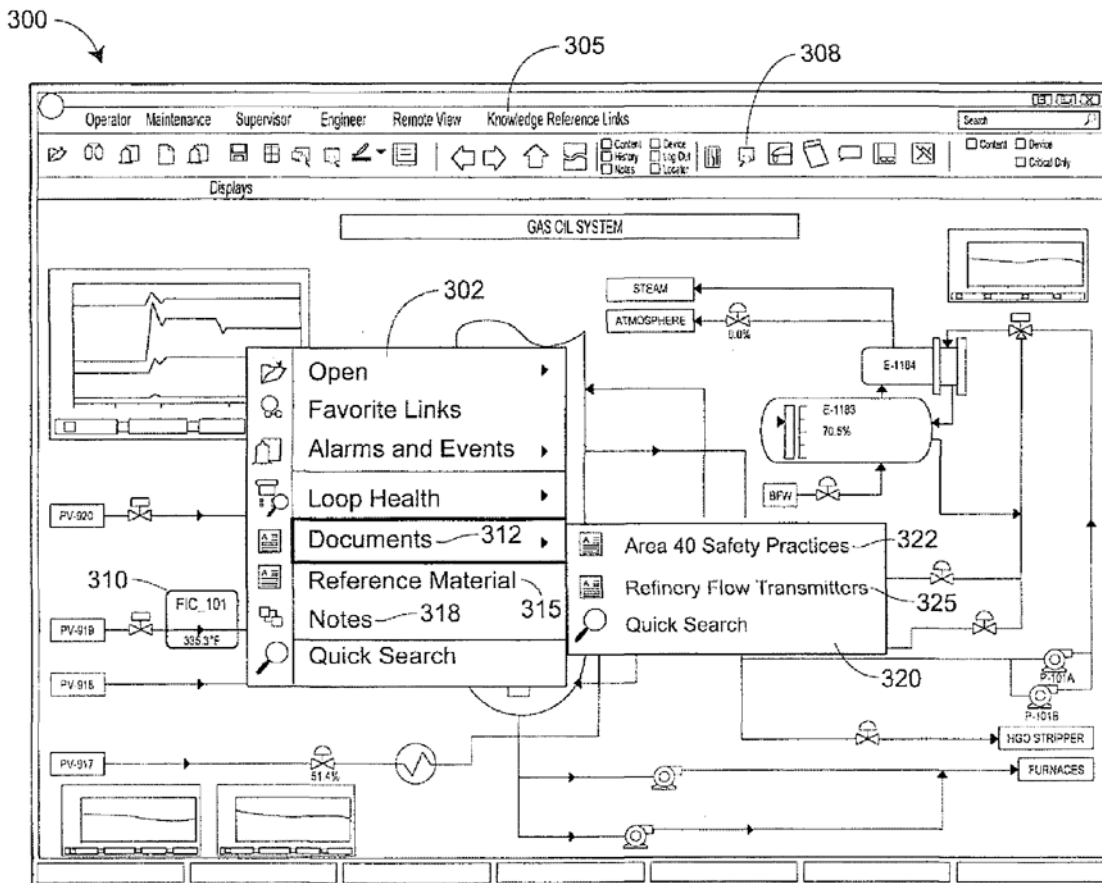
#### Introduction

- 1 This decision is concerned with the question of whether the inventions set out in patent applications GB1015890.5 and GB1019647.5 relate to excluded matter. The examiner has maintained throughout the examination of these applications that the claimed inventions are excluded from patentability under section 1(2) of the Patents Act 1977 as a program for a computer and/or the presentation of information. Despite several rounds of argument and amendment, the applicant has not been able to overcome the objections, and hearings were offered in order to resolve the matter. In view of the similarity between the subject matter of the applications, it was agreed that they could be heard together. The hearing took place on 22 September 2016, at which the applicant was represented by Mr Russell Sessford of Forresters.

#### The applications

- 2 GB1015890.5 is titled "Dynamic hyperlinks for process control systems" and was filed on 22 September 2010 with a priority date of 23 September 2009. It was published as GB2473947A on 30 March 2011.
- 3 GB1019647.5 is titled "Methods and apparatus to manage process control status rollups". It was filed on 19 November 2010 with a priority date of 10 December 2009 and published as GB2476145A on 15 June 2011.
- 4 Both applications relate to displaying additional information on a terminal of a process control system for a process plant. The terminal may be used by a plant operator, who can control aspects of the plant operation via the terminal, or it may be used by a maintenance or other engineer who cannot control the plant but is nevertheless interested in information relating to the operation and configuration of the plant.
- 5 GB1015890.5 describes a system for providing further information on the terminal by means of dynamic hyperlinks. More particularly, a database of dynamic hyperlinks is defined linking process control objects to knowledge reference information. When a particular display view is initiated and created for display on a terminal, the dynamic

hyperlinks are inserted into the display view based on the process control objects appearing in the view. These can then be selected to display the relevant knowledge reference information. Figure 3A of the application (reproduced below) shows an embodiment of a display view indicating accessible information. This arrangement is said to have numerous advantages over prior art methods which typically require static links to be defined for every display view.



**FIG. 3A**

- 6 GB 1019647.5 describes a system for displaying additional information in the form of status rollups. In particular, the system automatically generates a summary list of status issues related to process control components based upon filters selected by a user. The selectable status issues could be alarms, messages, abnormal conditions, configuration errors, etc. Particular emphasis is given in the application to the generation of status rollups relating to alarms. Figure 3B of the application (reproduced below) shows an exemplary user interface and the corresponding status rollup.

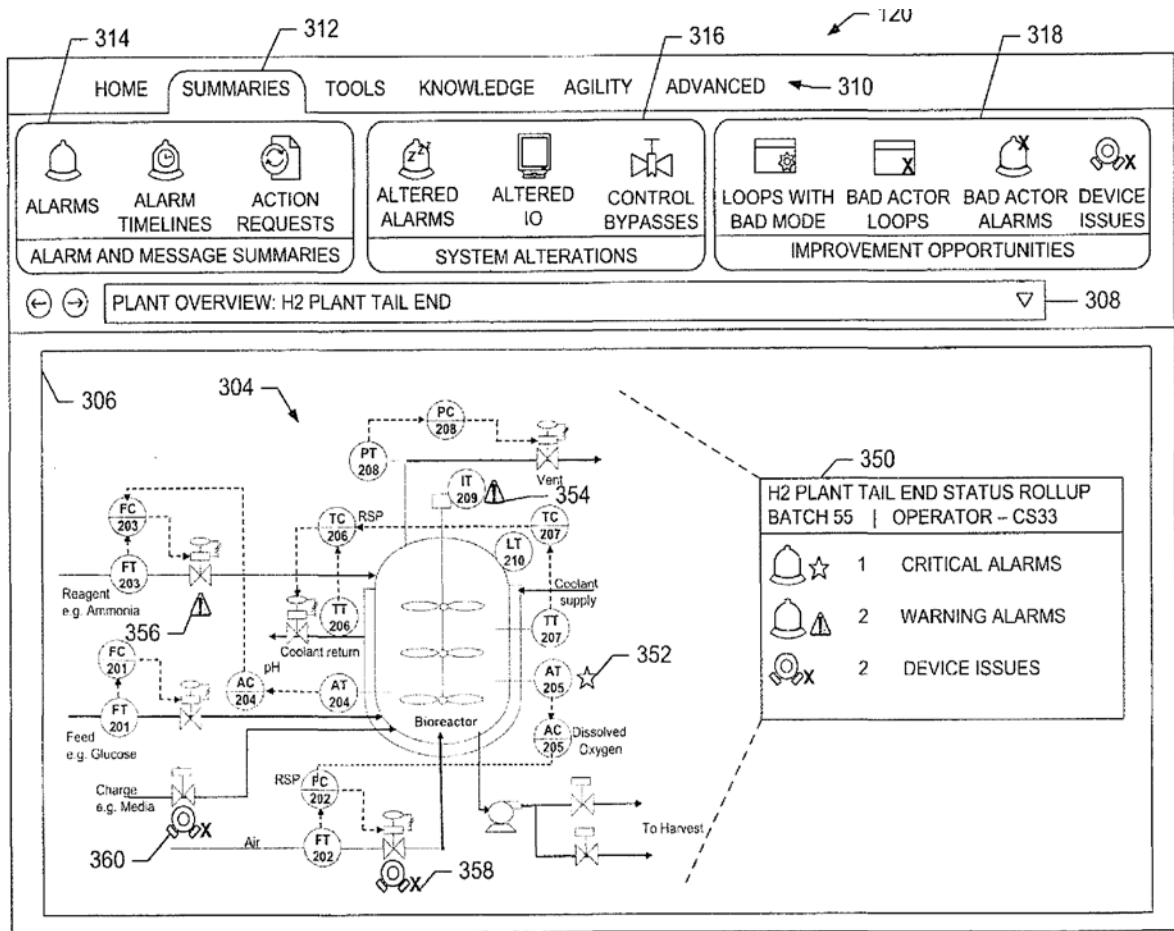


FIG. 3B

## The law

- 7 The examiner's objection is based upon section 1(2) of the Act, stating that the application is not patentable as it relates to one or more categories of excluded matter. The most relevant provisions of this section of the Act are shown in bold below:

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

- (a) a discovery, scientific theory or mathematical method;*
- (b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;*
- (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 provisions shall prevent anything from being treated as an invention for the purposes of the Act only to the extent that a patent or application for a patent relates to that thing as such.*

- 8 The provisions of section 1(2) were considered by the Court of Appeal in *Aerotel*<sup>1</sup> when a four-step test was laid down to decide whether a claimed invention is

<sup>1</sup> *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371

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.

9 Lewison J in *AT&T/CVON*<sup>2</sup> set out five signposts (“the *AT&T* signposts”) that he considered to be helpful when considering whether a computer program makes a technical contribution. Lewison LJ reconsidered the signposts in *HTC/Apple*<sup>3</sup> in light of the decision in *Gemstar*<sup>4</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.

### **GB 1015890.5**

10 I shall deal first with application GB1015890.5. The most recently amended version of claim 1 (filed on 29 June 2016) reads as follows:

1. A method that enables operation of a process plant by providing dynamic hyperlinks within multiple displays in a process control system, comprising:

enabling a user to include at least one process control object within at least one first display view of multiple display views and to include the at least one process control object within at least one second display view of multiple display views, via a user interface, during creation of the multiple display views, via a display configuration interface;

enabling a user to store at least one entry in a dynamic hyperlink database, wherein the at least one entry corresponds to a defined dynamic hyperlink and wherein the entry includes:

an indication of an association of the at least one process control object with the at least one defined dynamic hyperlink, and

an indication of an association of at least one knowledge object with said at least one defined dynamic hyperlink, wherein the at least one knowledge

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<sup>2</sup> *AT&T Knowledge Venture/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat)

<sup>3</sup> *HTC Europe Co Ltd v Apple Inc* [2013] EWCA Civ 451

<sup>4</sup> *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2010] RPC 10

object corresponds with at least one knowledge reference;

automatically establishing, within the at least one first display view of the multiple display views, during run-time of the at least one first display view of the multiple display views, an association between at least one process control object and the defined dynamic hyperlink, based on the at least one entry in the dynamic hyperlink database, wherein the defined dynamic hyperlink enables a user to access the at least one knowledge reference,

automatically establishing, within the at least one second display view of the multiple display views, independent from the at least one first display view of the multiple display views, during run-time of the at least one second display view of the multiple display views, an association between the at least one process control object and the defined dynamic hyperlink, based on the at least one entry in the dynamic hyperlink database, wherein the defined dynamic hyperlink enables a user to access the at least one knowledge reference; and

enabling operation of the process via at least one of the multiple display views, based on the at least one knowledge reference.

- 11 There are two further independent claims, claims 17 and 28, but all have similar scope and it was agreed at the hearing that the claims stand or fall together and only claim 1 needed to be considered.
- 12 There are not considered to be any issues with the construction of the claim. The claimed invention has been helpfully summarised in the skeleton argument as follows:

*The claimed invention comprises the provision of two display views (i.e. user interfaces) in which the same process control object may be displayed. An interface is provided to enable the user to include the process control object in the display views. The claimed method further enables a link to be established between the process control object and a dynamic hyperlink, and between the dynamic hyperlink and a knowledge object. Thus there is a link, via the database, between the process control object and the knowledge reference, through the use of the dynamic hyperlink. The method further includes automatically establishing an association between the process control object and the dynamic hyperlink for each display view when that display view is run. This is done through the database which provides the link between the process control object, the dynamic hyperlink, and the knowledge object. The claimed method is further limited to the use of the knowledge object in controlling the operation of the process via at least one of the display views based on that knowledge object.*

- 13 The contribution put forward by the applicant is as follows:

*The provision of a process control system in which links between knowledge objects and process control objects are simpler to maintain and update, in a multi-display view system, such that the process (under control of the process control system) can be better controlled as a consequence of more reliable access to relevant knowledge objects.*

- 14 There was no dispute regarding this definition of the contribution at the hearing and I agree that the contribution can be set out in these terms.
- 15 Having identified the contribution I must now decide whether or not it falls solely within excluded subject matter and whether or not the contribution is technical in nature.
- 16 The applicant puts forward three reasons why this contribution takes the invention outside the exclusions as follows: i) the process is a better controlled process and this is a contribution outside of the computer; ii) the operation of the computer system (i.e. the computers underlying the process control system) is improved to provide a “better computer”; iii) the manner in which the invention is implemented simplifies the programming of the computer.
- 17 In terms of the first of these, which is based on the first of the *AT&T* signposts, Mr Sessford stated at the hearing that the process was better controlled because the information was more reliable and therefore operation of the process was more reliable. As I understand it, the information is considered to be more reliable because each display view automatically links process control objects to the dynamic hyperlinks, rather than relying on static links. In particular, the dynamic hyperlinks enable the information to be kept up-to-date more easily as it is only necessary to update the knowledge reference in the database.
- 18 Nevertheless, the improvement relates only to the displaying of information and the operation of the plant based on that displayed information. The means by which the process is controlled via the process control system is entirely conventional, there being no changes to the underlying process control system.
- 19 Mr Sessford referred to a number of previous office decisions and the High Court judgement in *Gemstar* at the hearing which he considered supported his view that the improved process was sufficiently technical to take it outside the exclusions. As acknowledged by the applicant, previous office decisions are not binding on me but I agree that where they show a consistent line of reasoning I should be persuaded by that reasoning.
- 20 The first two of these, *Fisher-Rosemount I*<sup>5</sup> and *Fisher-Rosemount II*<sup>6</sup> are generally similar and the same reasoning applies to both. These cases relate to graphical display aspects of process control systems and they were both allowed by the Comptroller following hearings. In both cases the Comptroller found that an amended claim was not excluded from patentability partly on the basis that the contribution included control of the physical process. I do not consider that they were allowed solely because the contributions included control of the physical process. In particular, the hearing officer identified that the unamended claims, which were excluded, were not a complete control system and I consider that this applies to the application in suit. The contribution identified in the decisions included “an association between software objects and physical components of a process, where the object directly maps to and communicates with the physical component”. The present application does not include any direct link between the dynamic hyperlinks, the knowledge reference or the displayed information and the physical component. Although there is a link between the process control objects of the display view and

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<sup>5</sup> BL O/148/07 *Fisher-Rosemount Systems, Inc.’s application*

<sup>6</sup> BL O/150/07 *Fisher-Rosemount Systems, Inc.’s application*

the real process control objects, this is part of the conventional process control system. As such, the contribution is not considered to be a complete control system. Instead it is considered to be a computer program that provides information which enables operation of the process control system. In particular, there is no direct link between the information displayed or the underlying dynamic hyperlinks and the process plant components which would make the system a complete control system.

- 21 Mr Sessford also referred to *Fisher-Rosemount III*<sup>7</sup> which was another case in which the Comptroller found an invention not excluded. Although this case relates to a process control system, I do not consider the facts of the case to be sufficiently similar to those of the present application for it to be of much use. In particular, this case does not involve the display of information. As with the other cases, the invention was found to be allowable partly on the basis that the contribution included the step of controlling the process, but I do not consider that this is the sole determining factor.
- 22 In *Boeing*<sup>8</sup>, also referred to at the hearing, the Comptroller found the invention to be allowable following a hearing. The invention relates to a maintenance system for aircraft which identifies and alerts a user to the presence of rogue components and includes the step of discarding the component. The facts of this case are somewhat more removed from the present application. One particular point made by Mr Sessford was that this case indicated that a human operator involved in performing a step of the contribution was not a bar to patentability. I agree, but nevertheless, I consider that, at least for the present application, there must be some form of direct link between the information provided and the operation being carried out. In the *Boeing* case I consider that the direct link is the instruction provided by the computer to discard a particular component. I do not consider any such direct link exists in the current application.
- 23 Finally Mr Sessford referred in his arguments to the High Court judgment in *Gemstar* and in particular to the *Transfer Patent* part of that decision. This patent was found not to be excluded as it included a physical effect outside the computer, namely “*the initiation of movement of data from one disk to another*”. However, it seems to me that this case also demonstrates a direct link between the information being displayed (EPG data of previously recorded programs) and the action performed by the user (selecting that data to initiate transfer of the recording to a secondary recorder) which is missing from the current application.
- 24 To summarise, I do not consider that the invention has a technical effect on a process which is carried on outside the computer, this being the first of the *AT&T* signposts. I consider that the only improvement lies in the presentation of information and that this information is not sufficiently linked to the control of the process plant for it to have an effect outside the computer. The improvement is not sufficient to take the invention outside the exclusions of section 1(2). It was agreed at the hearing that the invention was either both a computer program and the presentation of information, or neither.
- 25 The applicant also claims that the operation of the computer system is improved to provide a better computer. The argument advanced by the applicant is that the technical effect operates at the level of the architecture of the computer in line with

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<sup>7</sup> BL O/438/12 *Fisher-Rosemount Systems, Inc.'s application*

<sup>8</sup> BL O/312/15 *The Boeing Company's application*

the second of the *AT&T* signposts. In particular, it is suggested that the process control system is the operating system and the invention is an underlying computer program which allows more specific programs operating above it to operate more effectively and provides a better process control system at the operating system level which makes it effectively a better computer.

- 26 While I am open to the idea that the underlying conventional process control system comprises an operating system and that more specific programs may operate above it, the present invention seems to me to be one of those programs operating above it.
- 27 More particularly, paragraph [0059] of the description specifies that the workstations which exhibit the display views of the invention may be personal computers and that they may be remotely located communicating over a public or private network. It seems therefore that the program of the invention is designed to run on conventional personal computers running conventional operating systems and it does not itself operate at the operating system level. Furthermore, if it did form part of the operating system of the computer the technical effect would be apparent irrespective of the data being processed or the program being run. Yet the program of the invention is designed to operate on a very specific subset of data, in particular requiring process control object data. In the absence of that data the program provides no improvement.
- 28 At the hearing Mr Sessford suggested that the dynamic hyperlinks of the invention were equivalent to a dynamic linked library (DLL) file and therefore demonstrated a technical effect similar to that identified in *Symbian*<sup>9</sup>. However, DLL files are clearly features of the operating system and the invention in that case was of general application to any program running on the operating system. In contrast the present invention is restricted to specific data and specific programs.
- 29 I therefore consider that the present application does not result in an improved computer. It is merely a better program which handles the display of reference knowledge more consistently through the use of dynamic hyperlinks.
- 30 Finally, the applicant suggested that the application provided a simpler way of programming a computer and thus had a technical effect equivalent to that identified in *HTC/Apple*. However, I consider that the technical effect identified in *HTC/Apple* related to an improvement in the underlying architecture of the system which was applicable to any program written on the device (see paragraph 57 of the judgment). As above, I do not consider that this application is of general applicability and only makes programming easier for a rather limited type of program.
- 31 Taking all of the above into account, I find that the contribution is excluded as both a program for a computer and the presentation of information as such, and that the contribution is not technical. The invention set out in this application therefore falls squarely within the exclusions of section 1(2).

### **GB 1019647.5**

- 32 I now turn to the other application, GB1019647.5. The most recent version of claim 1 (filed on 29 June 2016) reads as follows:

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<sup>9</sup> *Symbian Ltd v Comptroller General of Patents* [2008] EWCA Civ 1066

1. A method to manage process control status rollups, the method comprising:

receiving a selection of a portion of a graphical representation of at least a portion of a process control system, wherein the selected portion of the graphical representation includes a visual representation of components of a portion of the process control system;

determining a component of the portion of the process control system, that is represented by the selected portion of the graphical representation based on at least one of tags or identifiers assigned to the visual representation of the component;

receiving process control information that is indicative of issues with the determined component within the process control system;

determining a set of issues associated with a portion of the received process control information;

receiving a selection of a status type;

identifying a subset of the set of determined issues associated with the selected status type;

displaying a process control status rollup that includes the subset of issues and that corresponds to the selected portion of the graphical representation; and

enabling operation of the process control system to be corrected or modified using the displayed process control status rollup.

33 There are two further independent claims, claims 18 and 35, but all have similar scope and it was agreed that the claims stand or fall together and only claim 1 needed to be considered.

34 There are not considered to be any issues with the construction of the claim. The claimed invention has been helpfully summarised in the skeleton argument as follows:

*The first step of the claimed invention is to receive part of a representation of the process control system – that part including graphical representations of components of a portion of the process control system. Tags or identifiers are then used to identify a component in that part of the representation. Process control information (i.e. technical information) relating to that component and, in particular, relating to issues with that component is received. That information is then effectively filtered using a status type. Then the filtered information is then displayed in a status rollup. The claimed invention is then further limited to the use of the filtered information to enable the correction or modification of the operation of the process control system.*

35 The contribution put forward by the applicant is as follows:

*The provision of a process control system in which information about the operation of the process plant is filtered and displayed to an operator in a better way such that the process (under control of the process control system) can be better controlled as a consequence.*

36 There was no dispute regarding this definition of the contribution at the hearing and I agree that the contribution can be set out in these terms.

37 Having identified the contribution I must now decide whether or not it falls solely within excluded subject matter and whether or not the contribution is technical in nature.

38 The applicant puts forward two reasons why this contribution takes the invention outside the exclusions as follows: i) the process is a better controlled process and this is a contribution outside of the computer; and ii) the manner in which the invention is implemented simplifies the programming of the computer.

39 These arguments are the same as those put forward in relation to the first application. I must nevertheless consider them carefully in case the facts of this application take the contribution outside the exclusions.

40 In respect of the first of the reasons, Mr Sessford stated at the hearing that the process was better controlled because the information was filtered or summarised so that the information presented to the operator was reduced. The operator was not therefore overwhelmed by irrelevant information and he could exercise better control of the process plant.

41 Nevertheless, the improvement relates only to the displaying of information and the operation of the plant based on that displayed information. The means by which the process is controlled via the process control system is entirely conventional, there being no changes to the underlying process control system.

42 Mr Sessford referred to a number of previous office decisions and the High Court judgment in *Gemstar* at the hearing which he considered supported his view that the improved process was sufficiently technical to take it outside the exclusions. These cases are also the same as those referred to previously and for the sake of conciseness I will deal with them more briefly where appropriate.

43 The hearing officer in *Fisher-Rosemount I* and *Fisher-Rosemount II* identified that the excluded claims were not a complete control system and I consider that this applies to this application too. The contribution identified in the decisions included "an association between software objects and physical components of a process, where the object directly maps to and communicates with the physical component". The present application does not include any direct link between the status rollups and the physical components of the plant. Although there is a link between the process control objects of the display view and the real process control objects, this is part of the conventional process control system. As such, the contribution is not considered to be a complete control system. Instead it is considered to be a computer program that provides information which enables operation of the process control system.

- 44 *Fisher-Rosemount III* was another case in which the Comptroller found an invention not be excluded. As above, I do not consider the facts of the case to be sufficiently similar to those of the present application for it to be of much use.
- 45 I also consider that *Boeing* does not help the applicant's case for the same reasons as given above. In particular, I consider that, for the present application, there must be some form of direct link between the information provided and the operation being carried out. In the *Boeing* case I consider that the direct link is the instruction provided by the computer to discard a particular component. I do not consider any such direct link exists in the current application.
- 46 Finally Mr Sessford referred again in his arguments to *Gemstar* and in particular to the *Transfer Patent* part of that decision. As I have already noted above, this patent was found to not be excluded as it included a physical effect outside the computer, namely "the initiation of movement of data from one disk to another". As I say above, it seems to me that this case also demonstrates a direct link between the information being displayed (EPG data of previously recorded programs) and the action performed by the user (selecting that data to initiate transfer of the recording to a secondary recorder) which is missing from the current application.
- 47 I have also considered the High Court judgement in *PKTWO*<sup>10</sup>, which relates to a computer system that monitors the content of electronic communication to ensure that children and other users are not exposed to inappropriate content or language. A "request and response" engine would send alert notifications to a user or administrator and receive responses as to the actions to be taken by the computer. In particular, the contribution of claim 33 included "*the generation of a more rapid and reliable alarm notification*". Floyd J. found this claim not to be excluded as follows:

34. ... I start with the proposition that the generation and transmission of an alert notification to the user/administrator is not a relevant technical process. I accept that in many cases this may be correct. Plainly it was correct in the case of two out of the three patents considered by Mann J. in *Gemstar*, where information was simply displayed on a screen. But what is in play in the present case, namely an alarm alerting the user, at a remote terminal such as a mobile device, to the fact that inappropriate content is being processed within the computer, is in my judgement qualitatively different. First of all, the concept, although relating to the content of electronic communications, is undoubtedly a physical one rather than an abstract one. In that respect it was more akin to the third of the three patents considered by Mann J. in *Gemstar*. Secondly, the contribution of claim 33 does not simply produce a different display, or merely rely on the output of the computer and its effect on the user. The effect here, viewed as a whole, is an improved monitoring of the content of electronic communications. The monitoring is said to be technically superior to that produced by the prior art. That seems to me to have the necessary characteristics of a technical contribution outside the computer itself.

- 48 First of all I note that the generation and transmission of alerts is not necessarily a relevant technical process. Secondly, it is my opinion that this application is one which relies on its effect on the user, and, viewed as a whole, does not provide improved monitoring of the process control system. The conventional underlying process control system provides all the monitoring and generation of alarms. The monitoring itself is not therefore considered to be technically superior to the prior art.

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<sup>10</sup> *Protecting Kids the World Over (PKTWO) Ltd's Patent Application* [2011] EWHC 2720 (Pat)

- 49 I do not consider that the invention has a technical effect on a process which is carried on outside the computer, this being the first of the *AT&T* signposts. I consider that the only improvement lies in the presentation of information and that this information is not sufficiently linked to the control of the process plant for it to have an effect outside the computer. The improvement is not sufficient to take the invention outside the exclusions of section 1(2).
- 50 Finally, the applicant suggested that the application provided a simpler way of programming a computer and thus had a technical effect equivalent to that identified in *HTC/Apple*. However, I consider that the technical effect identified in *HTC/Apple* related to an improvement in the underlying architecture of the system which was applicable to any program written on the device (see paragraph 57 of the judgement). I do not consider that this application is of general applicability and only makes programming easier for a rather limited type of program.
- 51 Taking all of the above into account, I find that the contribution is excluded as both a program for a computer and the presentation of information as such and that the contribution is not technical. This application therefore falls squarely within the exclusions of section 1(2).

### **Conclusion**

- 52 I find that the invention defined by claim 1 of GB1015890.5 is both a computer program and the presentation of information as such. Accordingly, it falls within the exclusions from patentability of section 1(2). The remaining claims of the application are considered to be similarly excluded.
- 53 I find also that the invention defined by claim 1 of GB1019647.5 is both a computer program and the presentation of information as such. Accordingly, it too falls within the exclusions from patentability of section 1(2). The remaining claims of this application are considered to be similarly excluded.
- 54 I have read the specifications carefully and I can see nothing that could be reasonably expected to form the basis of a valid claim. I therefore refuse the two applications under section 18(3).

### **Other matters**

- 55 One other matter which needs to be addressed in relation to GB 1015890.5 is the expiry of the compliance period.
- 56 The compliance period for this application expired on 11 July 2016, this being 12 months after the issue of the first examination report. An as-of-right 2 month extension of this period would have been available retrospectively under rule 108(2) until 11 September 2016 by filing a Form 52 and fee. The applicant was warned of this in the Office letter of 13 July 2016.
- 57 An email was sent to the applicant on 14 September 2016 advising that the period for filing the form had expired, but that a late filing of the form would be accepted providing adequate reasons were provided, such as the forthcoming (at the time) hearing. A Form 52 and letter setting out reasons were duly received later the same day. Unfortunately the offer to accept a late filing was made in error and was *ultra*

*vires* following the decision I reached in a previous *Fisher-Rosemount*<sup>11</sup> case. I advised Mr Sessford of this at the hearing and he suggested that rule 107 could be used to extend the compliance period in this particular case. Having reviewed the handling of this case leading up to the hearing I note that it had not been flagged as an urgent case nearing the end of its compliance period as it ought to have been, which is an office irregularity that could have resulted in the late filing of the Form 52. In order to rectify this error, I authorise the compliance period to be extended to 14 July 2016 to allow the first request for an extension under rule 108 to be made in time.

### **Appeal**

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

**H JONES**

Deputy Director, acting for the Comptroller

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<sup>11</sup> BL O/238/12 Fisher-Rosemount Systems, Inc's Application