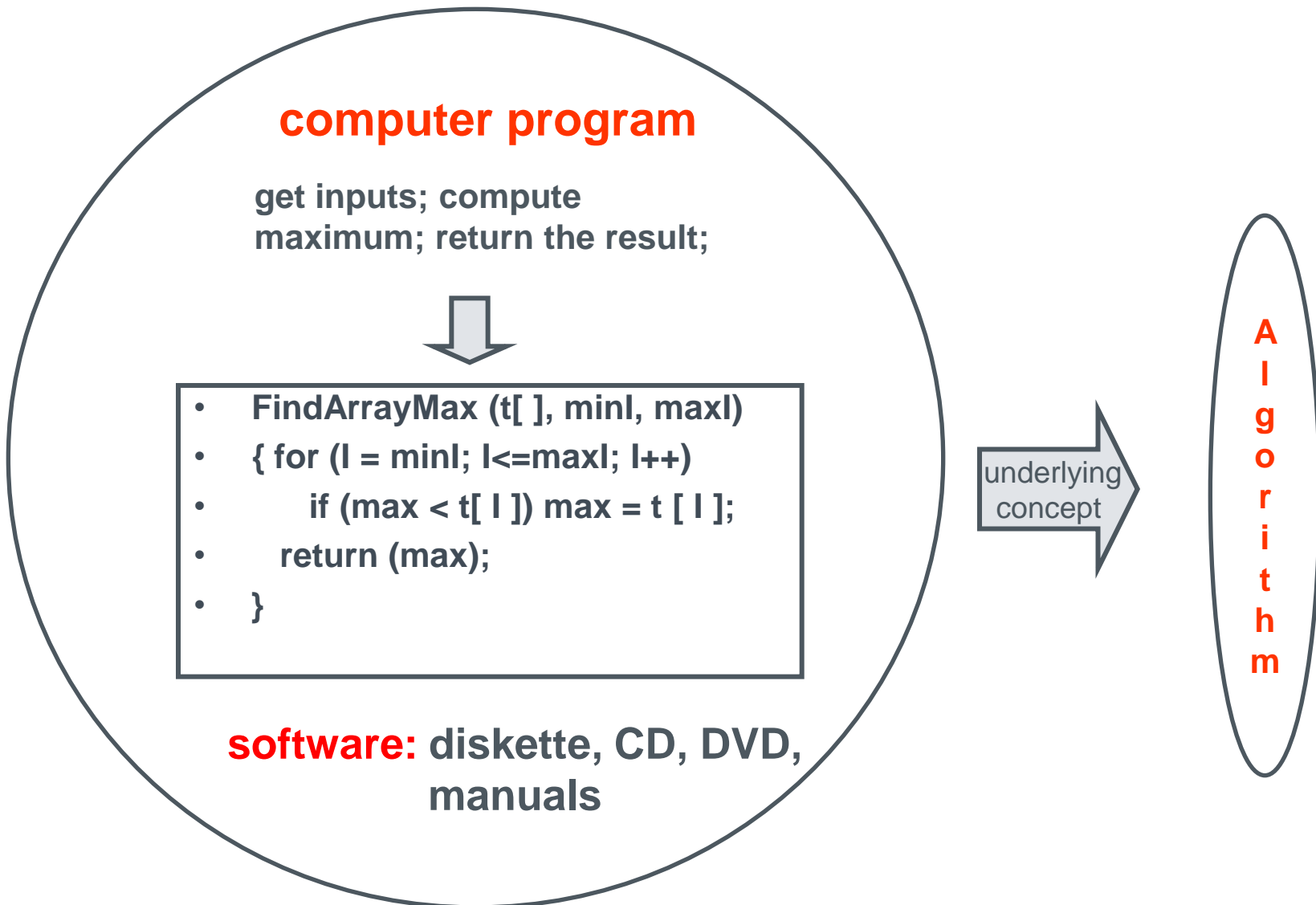


# Patenting of Computer- implemented Inventions: The view of the EPO

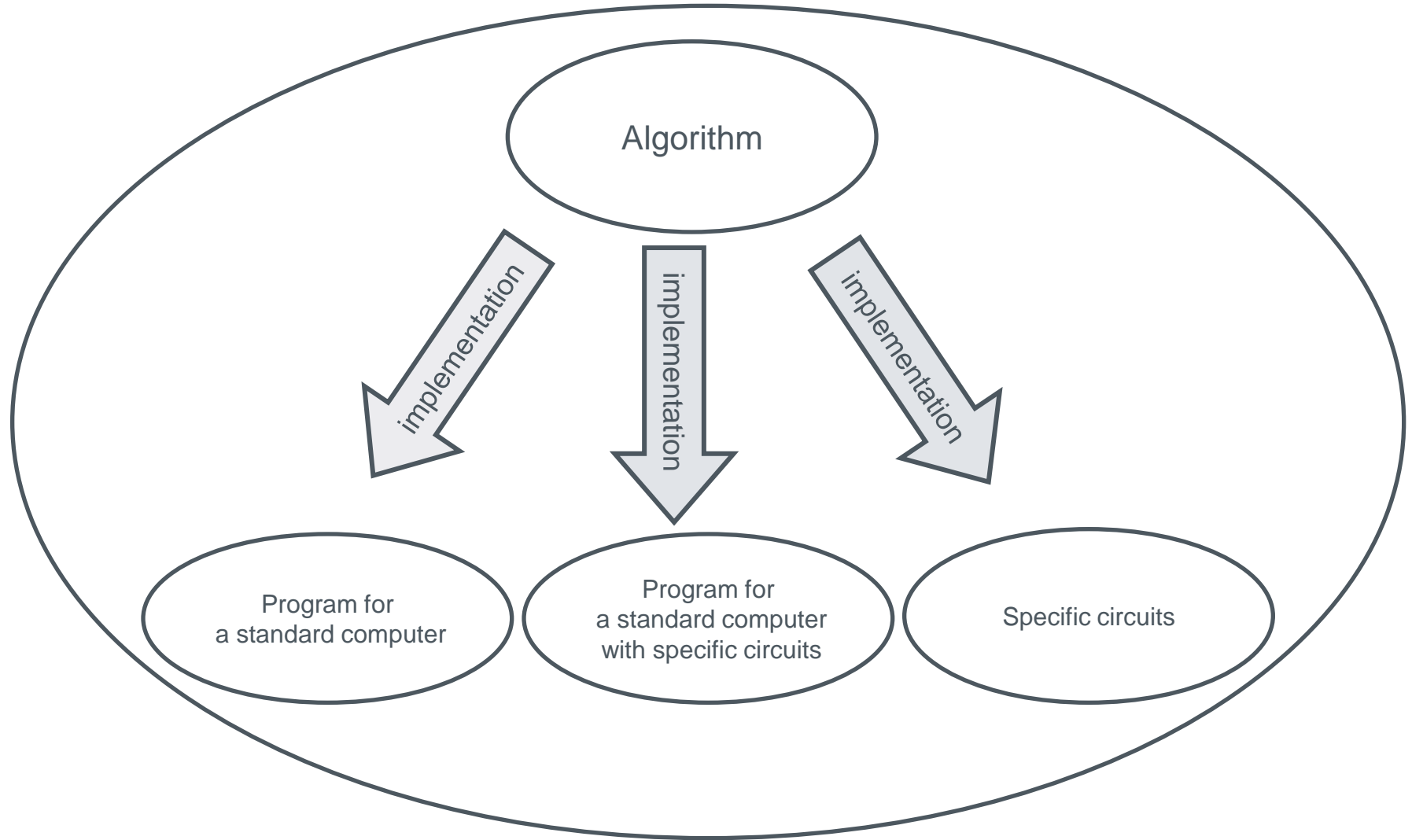
V Jornada de Propiedad Industrial en las TIC, Madrid 27 mayo 2014

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European Patent Office

# Computer-implemented Inventions (CII)



# Computer-implemented Inventions



# Computer-implemented Inventions

## Computer-implemented invention (CII) is

- an invention whose implementation involves the use of a computer, computer network or other programmable apparatus
- with features realised wholly or partly by means of a computer program

Examples:

a program-controlled ...

fault tolerance scheme;

washing machine cycle;

car braking system;

mobile telephone mode;

etc.

# European Patent Convention

## Article 52 (1):

European patents shall be granted for any **inventions**, in all fields of technology, provided that they are **new**, involve an **inventive step** and are susceptible of **industrial application**

# European Patent Convention

## Article 52 (2) and (3):

The following, in particular, shall **not** be regarded as inventions

- discoveries, scientific theories, mathematical methods
- aesthetic creations
- schemes, rules and methods for performing mental acts playing games or doing business
- programs for computers
- presentations of information

Only to the extent to which a European patent application relates to such subject matter or activities **as such**.

# Interpretation

## Non-Inventions

- Activities falling within the notion of a **non-invention** would typically represent purely abstract concepts devoid of any technical implication.
- A non-invention has no technical character

T 258/03 - HITACHI

# Interpretation

## Technical Character

An invention must have technical character to the extent that it must:

relate to a technical field,

concern a technical problem,

have technical features in terms of which the matter for which protection is sought can be defined in the claims, and

result in a technical effect.

What is "technical" cannot be defined by a simple, workable and commonly accepted definition.

Positive and negative examples of "technical" work better.

Software can be used for both technical and non-technical applications.

Interpret grey areas, e.g., Boards of Appeal decisions (case law).



# Interpretation

**Technical** is (non-exhaustive list):

- processing **physical data** parameters or control values of an industrial process
- processing which **affects the way a computer operates**
  - ✓ saving memory, increasing speed
  - ✓ security of a process, rate of data transfer etc.
- the **physical features of an entity**
  - ✓ memory, port, database, etc.

# Interpretation

- features relating to non inventions within the meaning of Art. 52 (2) EPC are **non technical features**
  - selling, trading, insurance
  - choosing amongst candidates for a job
  - order placement and management
- **processing non-physical data (e.g. monetary values, business data, graphical presentation (graphs) and text are not physical data).**

# Interpretation

...for computer programs and  
computer program products...

The computer program, when carried out has to  
provide a **"further technical effect"**

The normal technical effects like flow of electrical  
current are not sufficient

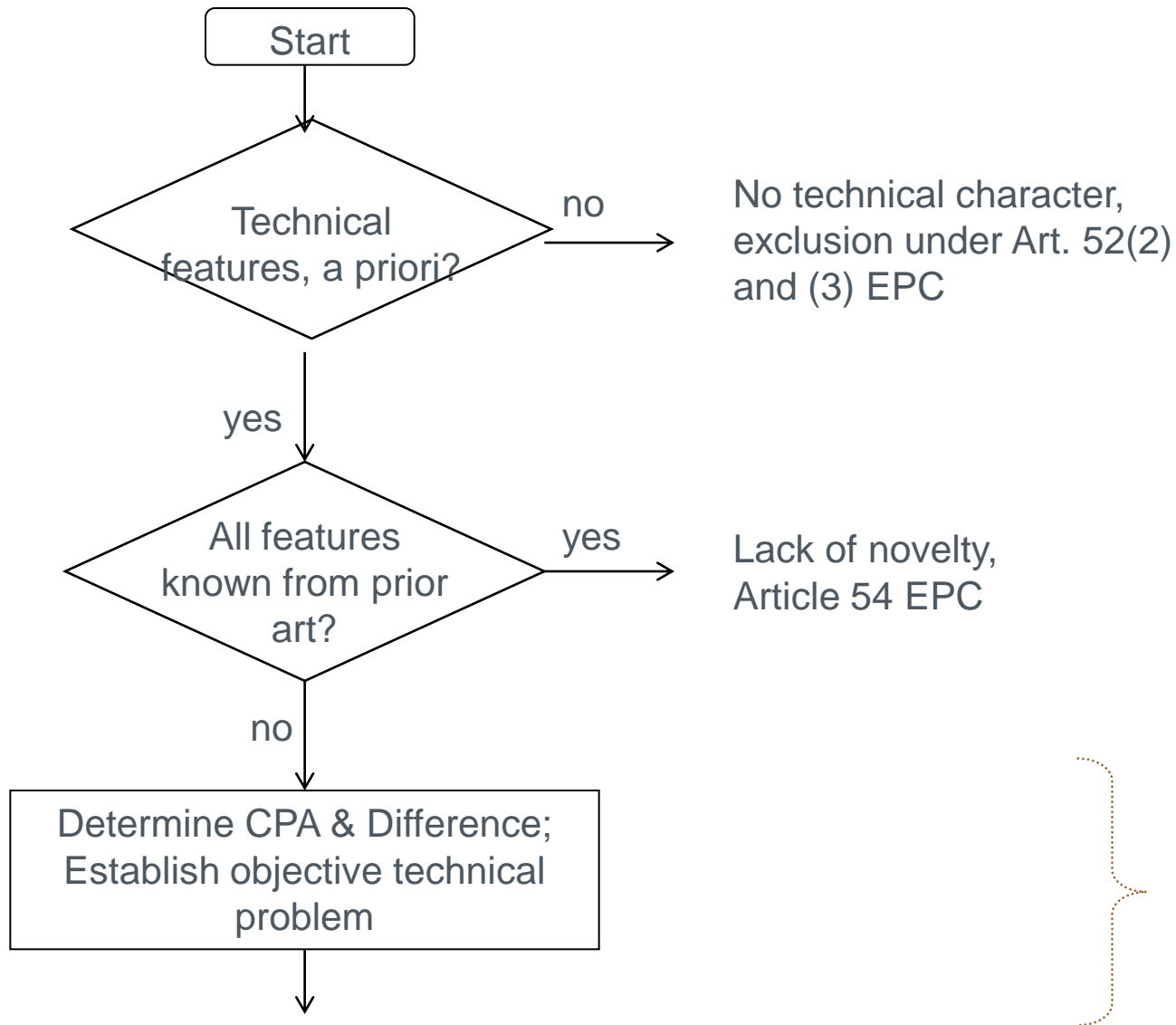
T1173/97 - IBM

T0935/97 - IBM

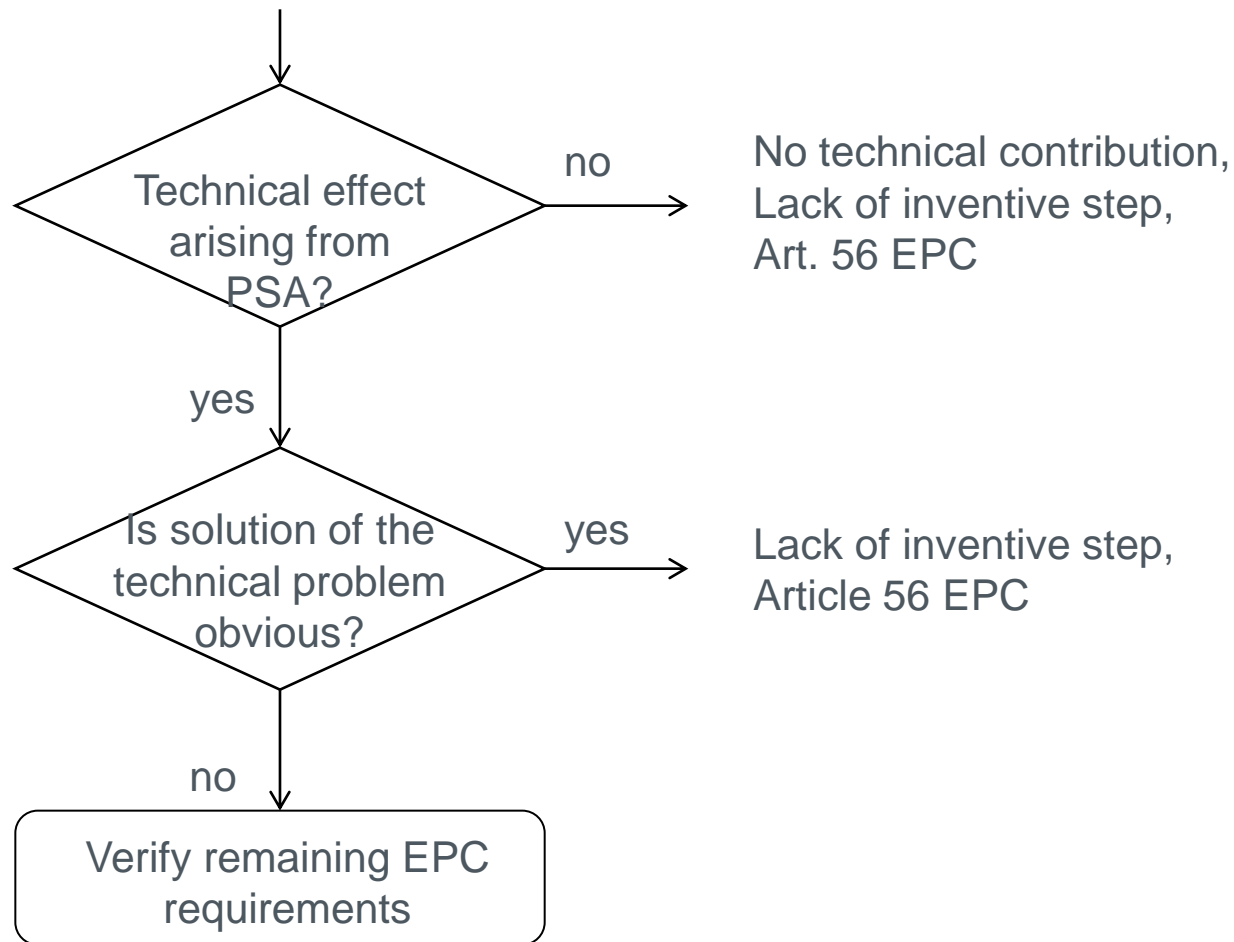
# Claims Types for CII

1. A method of operating a data-processing system comprising steps A, B, ...
2. (a) A data processing apparatus/system comprising means for carrying out the method of claim 1.  
(b) A data processing apparatus/system comprising means for carrying out step A, means for carrying out step B,...
3. (a) A computer program (product) adapted to perform the method of claim 1.  
(b) A computer program comprising software code adapted to perform the steps A, B,...(when executed on a data-processing apparatus/system).
4. (a) A computer readable storage medium/data carrier comprising the program of claim 3.  
(b) A computer readable storage medium/data carrier comprising instructions to cause a data processing apparatus/system to carry out steps A, B, ... (when loaded into said data-processing apparatus/system).

# EPO Examination Practice on CII



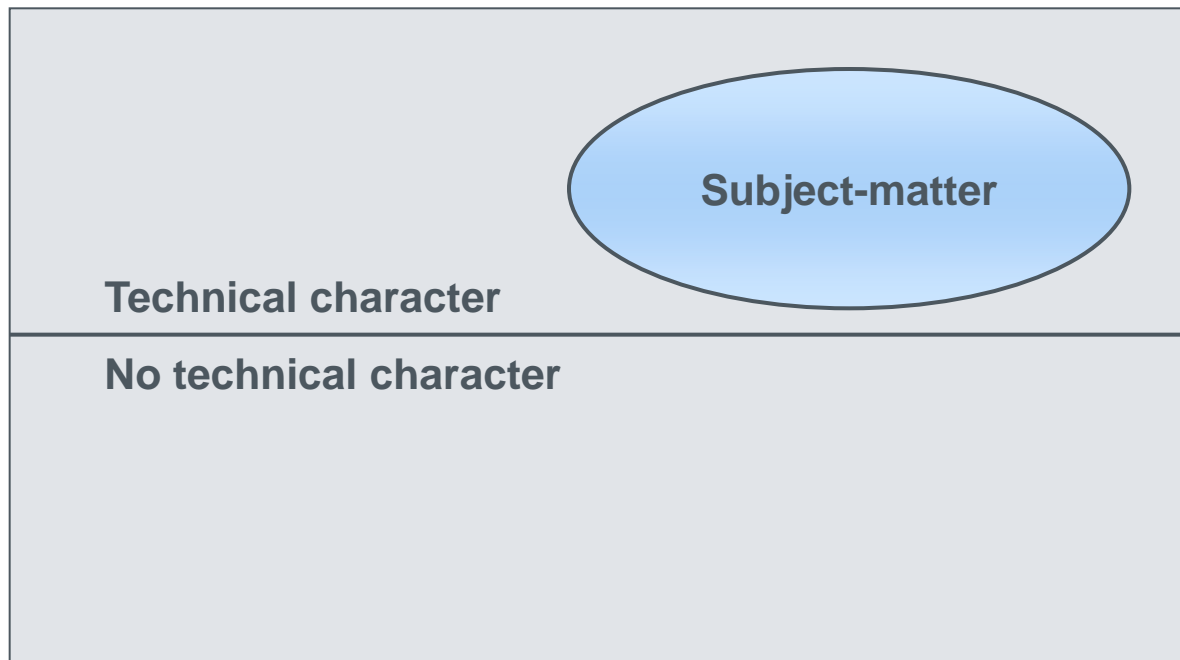
# EPO Examination Practice on CII (ctd.)



# EPO Practice: Exclusion

✓ Subject-matter *is not* excluded from patentability

× Subject-matter *is* excluded from patentability



At least one feature has technical character =>  
subject-matter has technical character.

# Example I: Exclusion

A method of controlling payment and delivery of content, the method comprising:

- a provider receiving a request for content from a user;
- the provider accessing content information describing the requested content;
- the provider accessing regulation information describing at least one regulation that is related to the payment and the content information of the requested content and to geographical information of the user;
- determining the geographic location of the user;
- the provider determining whether the requested content satisfies the at least one regulation;
  - if so, delivering the requested content to the user for free;
  - if not, transmitting a payment request to the user.

Non-technical process/ aspects

Clearly Technical Aspects

none



## Example II: Computer-implemented business method

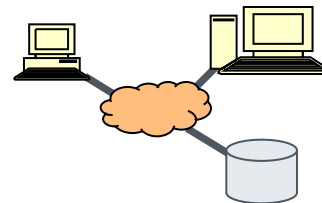
A **computer-implemented** method of controlling payment and delivery of content within a **computer system** comprising a user **terminal**, a provider **server** and a **database** which are connected via a **communication network**, the method comprising:

- the provider **server** receiving a request for content from the user **terminal**;
- the provider **server** accessing **in the database** content information describing the requested content;
- the provider **server** accessing regulation information **in the database** describing at least one regulation that is related to the payment and the content information of the requested content and to geographical information of the user;
- determining the geographic location of the user;
- the provider **server** determining whether the requested content satisfies the at least one regulation;
  - if so, delivering the requested content to the user **terminal**
  - if not, transmitting a payment request to the user **terminal**.

=

business process

+



Does this merit  
a patent?

## Example II: Computer-implemented business method

### Clearly Technical Aspects

A computer implemented method comprising:

- a server receiving data from a terminal over a communication network;
- the server accessing data in a database;
- the server processing the accessed and received data;
- the server transmitting the processing result to the terminal;

### Non-Technical Aspects/ Process

Same business process  
as in Example I

no technical interaction  
does not contribute to technical character

The subject matter of the claim defines technical and non-technical aspects and thus has **technical character**.

→ assessment of novelty and inventive step

# EPO Practice: Inventive step

## Problem solution approach

Establish closest prior art (always chosen from a field of technology).

Determine differentiating features and their technical effects.

Formulate the objective technical problem (derived by the **technical** differences between the closest prior art and the claimed subject-matter, it must be a technical problem, however a non-technical aim may appear as a constraint that has to be met).

Decide whether the proposed solution is obvious for the skilled person (skilled in a field of technology, in this case information technology, no knowledge of non-technical fields, e.g. finance).

## Example II: Inventive Step

Technical character:	yes
Non-technical aspects:	yes
Requirements specification:	= business method: "ordering content and calculating its price"
Closest prior art:	computer system comprising a server, database, and a terminal which are connected via a communication network
Differences:	said business method
Skilled person:	data processing expert
Objective technical problem:	automate said business method on said computer system
Solution:	implementation/ automation is considered obvious

## Example III: Computer-implemented business method

- A **computer-implemented** method of controlling payment and delivery of content within **a computer system** comprising **a user terminal**, **a provider server** and **a database which are connected via a communication network**, the method comprising:
    - the provider **server** receiving a request for content from the user **terminal**;
    - the provider **server** accessing **in the database** content information describing the requested content;
    - the provider **server** accessing regulation information **in the database** describing at least one regulation that is related to the payment and the content information of the requested content and to geographical information of the user;
    - determining the geographic location of the user;
    - the provider **server** determining whether the requested content satisfies the at least one regulation;
      - if so, delivering the requested content to the user **terminal**
      - if not, transmitting a payment request to the user **terminal**.
- wherein the geographic location of the user is determined by the IP address of the user terminal **using method steps x, y, z.**

## Example III: Inventive Step

Technical character: yes

Non-technical aspects: yes

Requirements specification: = business method:  
ordering content and calculating its price

Closest prior art: computer system comprising a server, database, and a terminal which are connected via a communications network capable of determining the location of user.

Non-technical differences: said business method

Technical differences: method steps x, y, z

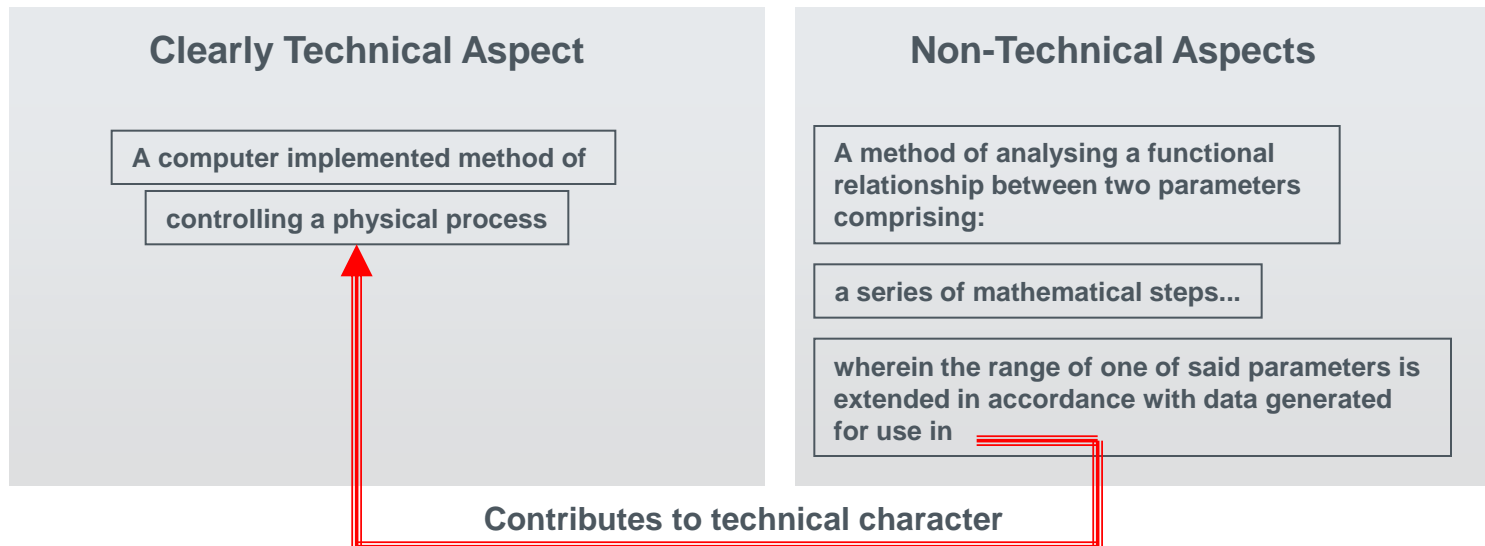
Skilled person: data processing expert

Objective technical problem:  
1. automate said business method  
2. find alternative method for determining geographic location of use

Solution:  
1. automation is obvious  
2. obvious?

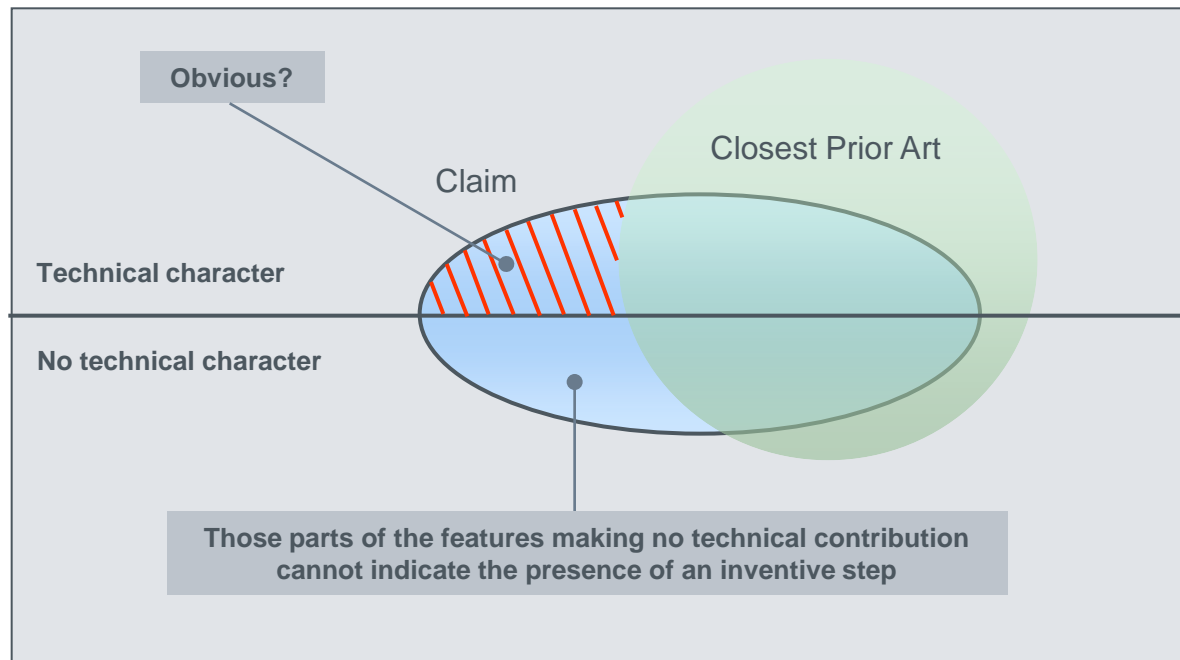
## Example IV: Computer-implemented method of controlling a physical process

- A **computer-implemented** method of **controlling a physical process** by analysing a functional relationship between two parameters, the method comprising
- [... a series of *mathematical steps* follow]
- wherein
- the range of one of said parameters is extended in accordance with data generated **for use in the control of said physical process.**



# EPO Practice: Inventive step

Inventive?



**A non-obvious technical contribution over the prior art  
in the technical field is necessary**



# Case law: Comvik: T0641/00 (26/09/2002)

## Headnote 1:

An invention consisting of a mixture of technical and non-technical features and having technical character as a whole is to be assessed with respect to the requirement of inventive step by taking account of all those features which contribute to said technical character whereas features making no such contribution **cannot support the presence of inventive step.**

## Headnote 2:

Although the technical problem to be solved should not be formulated to contain pointers to the solution or partially anticipate it, merely because some feature appears in the claim does not automatically exclude it from appearing in the formulation of the problem. In particular **where the claim refers to an aim to be achieved in a non-technical field, this aim may legitimately appear in the formulation of the problem** as part of the framework of the technical problem that is to be solved, in particular as a constraint that has to be met.

## Case law: RICOH: T172/03 (27/11/2003)

- Any prior art which is **not** related to any technological field or field from which a skilled person would expect to derive any technically relevant information does **not** belong to the state of the art to be considered in the context of Articles 54 and 56 EPC.
- Skilled person within the meaning of Article 56 EPC is a **technical** expert, professional or practitioner.
- "State of the art" should be understood as "state of **technology**" which does **not include** the state of the art in commerce and business methods

## Case law: RICOH: T172/03 (27/11/2003)

- Providing an implementation of a business-related method on a computer system is a technical problem.
- Legitimate to include the non-technical aspects and features into the formulation of the technical problem.
- Technical features of the implementation (functions of the distributed system) follow directly from the requirements specification.
- Mere automation of constraints imposed by the business-related aspects using conventional hardware and programming methods must be considered as obvious.

## Case law: HITACHI T0258/03 (21/04/2004)

Confirmation that prior art should **not** be considered when deciding on Article 52 (2)(3) questions.

"**Practical**" reasons for generally accepting mixes of technical and non-technical features as inventions in the meaning of Article 52(1) EPC, since separation may be difficult.

Examples for non-inventions: purely abstract concepts devoid of any technical implications.

## Case law: MICROSOFT: T 0424/03 (23/02/06)

A **method implemented in a computer system** represents a sequence of steps **actually performed** and achieving an effect, and not a sequence of computer-executable instructions (i.e. computer program) which just have the potential of achieving such an effect when loaded into, and run on, a computer.

Therefore: **the claim category of a computer-implemented method is distinguished from that of a computer program.**

## Case law: MICROSOFT: T 0424/03 (23/02/06)

### Computer-readable medium: Claim 5

The subject-matter of claim 5 has technical character since it relates to a computer-readable medium, i.e. a technical product involving a carrier (T258/03 HITACHI). The computer-executable instructions have the potential of achieving a further technical effect, i.e. enhancing the internal operation of the computer by facilitating the exchange of data among various application programs. This further technical effect goes beyond the elementary interaction of any software and hardware data processing (T1173/97 IBM) and thus the computer program recorded on the medium is not considered to be a computer program as such (5.3).

## Case law: MICROSOFT: T 0424/03 (23/02/06)

### Conclusions:

1. The claim category of a **computer-implemented method** is distinguished from that of a **computer program**. Even though a method, in particular a method of operating a computer, may be put into practice with the help of a computer program, a claim relating to such a method does not claim a computer program in the category of a computer program.
2. A computer-readable medium is a technical product and, thus, has a technical character.

## Case Law: Pension Benefit: T0391/95 (8/9/2000)

- An apparatus constituting a physical entity or concrete product, suitable for performing or supporting an economic activity, is an invention within the meaning of Article 52(1) EPC.
- There is no basis in the EPC for distinguishing between "new features" of an invention and features of that invention which are known from the prior art when examining whether the invention concerned may be considered to be an invention within the meaning of Article 52(1) EPC. Thus there is no basis in the EPC for applying the so-called contribution approach.



# Conclusions

- Computer-implemented inventions are **not** excluded from patentability.
- Patentability exclusions to be interpreted in a **narrow** way - only one technical feature needs to be present for the whole subject-matter to be technical.
- **Inventive step assessment** has become most important when dealing with computer-implemented inventions (however only technical features can be the basis for inventive step).

# Any Questions?



## Thank you for your attention!