CPC NOTICE OF CHANGES 772

DATE: JANUARY 1, 2020

PROJECT RP0653

**The following classification changes will be effected by this Notice of Changes**:

| Action | Subclass | Group(s) |
|---|---|---|
| **SCHEME:** | | |
| Symbols New: | G16Y | SUBCLASS |
| | G16Y | 10/00, 10/05, 10/10, 10/15, 10/20, 10/25, 10/30, 10/35, 10/40, 10/45, 10/50, 10/55, 10/60, 10/65, 10/70, 10/75, 10/80, 10/90 |
| | G16Y | 20/00, 20/10, 20/20, 20/30, 20/40 |
| | G16Y | 30/00, 30/10 |
| | G16Y | 40/00, 40/10, 40/20, 40/30, 40/35, 40/40, 40/50, 40/60 |
| | | |
| Notes New: | G16Y | SUBCLASS |
| | | |
| **DEFINITIONS:** | | |
| Definitions New: | G16Y | SUBCLASS |
| | G16Y | 30/00 |
| | G16Y | 40/00 |

**No other subclasses/groups are impacted by this Notice of Changes.**

**This Notice of Changes includes the following** *[Check the ones included]:*

1. CLASSIFICATION SCHEME CHANGES

    ☒ A. New, Modified or Deleted Group(s)

    ☐ B. New, Modified or Deleted Warning(s)

    ☒ C. New, Modified or Deleted Note(s)

    ☐ D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

    ☒ A. New or Modified Definitions (Full definition template)

    ☐ B. Modified or Deleted Definitions (Definitions Quick Fix)

3. ☐ REVISION CONCORDANCE LIST (RCL)

4. ☒ CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

5. ☐ CHANGES TO THE CROSS-REFERENCE LIST (CRL)

1.  CLASSIFICATION SCHEME CHANGES

    A.  New, Modified or Deleted Group(s)

**SUBCLASS G16Y - INFORMATION AND COMMUNICATION TECHNOLOGY SPECIALLY ADAPTED FOR THE INTERNET OF THINGS [IoT]**

| Type* | Symbol | Indent Level Number of dots (e.g. 0, 1, 2) | Title "CPC only" text should normally be enclosed in {curly brackets}** | Transferred to# |
|---|---|---|---|---|
| N | G16Y | Subclass | INFORMATION AND COMMUNICATION TECHNOLOGY SPECIALLY ADAPTED FOR THE INTERNET OF THINGS [IoT] | |
| N | G16Y10/00 | 0 | Economic sectors | |
| N | G16Y10/05 | 1 | Agriculture | |
| N | G16Y10/10 | 1 | Forestry | |
| N | G16Y10/15 | 1 | Fishing | |
| N | G16Y10/20 | 1 | Mining | |
| N | G16Y10/25 | 1 | Manufacturing | |
| N | G16Y10/30 | 1 | Construction | |
| N | G16Y10/35 | 1 | Utilities, e.g. electricity, gas or water | |
| N | G16Y10/40 | 1 | Transportation | |
| N | G16Y10/45 | 1 | Commerce | |
| N | G16Y10/50 | 1 | Finance; Insurance | |
| N | G16Y10/55 | 1 | Education | |
| N | G16Y10/60 | 1 | Healthcare; Welfare | |
| N | G16Y10/65 | 1 | Entertainment or amusement; Sports | |
| N | G16Y10/70 | 1 | Broadcasting | |
| N | G16Y10/75 | 1 | Information technology; Communication | |
| N | G16Y10/80 | 1 | Homes; Buildings | |
| N | G16Y10/90 | 1 | Chemistry | |
| N | G16Y20/00 | 0 | Information sensed or collected by the things | |
| N | G16Y20/10 | 1 | relating to the environment, e.g. temperature; relating to location | |
| N | G16Y20/20 | 1 | relating to the thing itself | |
| N | G16Y20/30 | 1 | relating to resources, e.g. consumed power | |
| N | G16Y20/40 | 1 | relating to personal data, e.g. biometric data, records or preferences | |
| N | G16Y30/00 | 0 | IoT infrastructure | |
| N | G16Y30/10 | 1 | Security thereof | |
| N | G16Y40/00 | 0 | IoT characterised by the purpose of the information processing | |
| N | G16Y40/10 | 1 | Detection; Monitoring | |
| N | G16Y40/20 | 1 | Analytics; Diagnosis | |

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| Type* | Symbol | Indent Level Number of dots (e.g. 0, 1, 2) | Title "CPC only" text should normally be enclosed in {curly brackets}** | Transferred to# |
|---|---|---|---|---|
| N | G16Y40/30 | 1 | Control | |
| N | G16Y40/35 | 2 | Management of things, i.e. controlling in accordance with a policy or in order to achieve specified objectives | |
| N | G16Y40/40 | 1 | Maintenance of things | |
| N | G16Y40/50 | 1 | Safety; Security of things, users, data or systems | |
| N | G16Y40/60 | 1 | Positioning; Navigation | |

*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; T = existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

NOTES:
- **No {curly brackets} are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- U groups: it is obligatory to display the required "anchor" symbol (U group), i.e. the entry immediately preceding a new group or an array of new groups to be created (in case new groups are not clearly subgroups of C-type groups). Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types.
- "Transferred to" column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the "Transferred to" column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: "<administrative transfer to XX>", "<administrative transfer to XX and YY simultaneously>", or "<administrative transfer to XX, YY, ...and ZZ simultaneously>" when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be "additional information".
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations "ADD" or "INV": <administrative transfer to XX ADD>, <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the "D" entries of 2000-series or Y-series groups may not require a destination ("Transferred to") symbol, however it is required to specify "<no transfer>" in the "Transferred to" column for such cases.
- For finalisation projects, the deleted "F" symbols should have <no transfer> in the "Transferred to" column.
- For more details about the types of scheme change, see CPC Guide.

C. New, Modified or Deleted Note(s)

**SUBCLASS G16Y - INFORMATION AND COMMUNICATION TECHNOLOGY SPECIALLY ADAPTED FOR THE INTERNET OF THINGS [IoT]**

| Type* | Location | Old Note | New/Modified Note |
|---|---|---|---|
| N | G16Y | | 1.      This subclass covers inter-networking of physical objects ("things") that embed technology enabling the things to sense and collect information from their internal state or their external environment, wherein the information is processed by the things or by other devices, e.g. servers, to be output to the things, to other things or to other devices, and enabling these things to be connected to the Internet either directly or indirectly. <br><br> •      "Directly connected to Internet" means that a thing possesses a network address of the Internet address space, which is used to communicate over the Internet. <br><br> •      "Indirectly connected to Internet" means that a thing is connected to a proxy device, which possesses a network address of the Internet address space and which communicates over the Internet on behalf of the thing. <br><br> •      A network address of the Internet address space is an address uniquely identifying a device in the Internet. <br><br> 2.      This subclass does not cover: <br><br> •      Mere monitoring, e.g. security cameras, or mere controlling, e.g. remote control arrangements. |

| Type* | Location | Old Note | New/Modified Note |
|---|---|---|---|
| | | | • Generic computing and communicating devices, e.g. computers or telephones<br><br>3. This subclass is intended to enable a complementary search of subject matter related to IoT by combination of classification symbols of this subclass with classification symbols from other subclasses. Therefore this subclass covers aspects of IoT (e.g. detection or navigation) that might also be entirely or partially covered elsewhere in the IPC.<br><br>4. This subclass is for obligatory supplementary classification of subject matter already classified as such in other classification places, when the subject matter contains an aspect of IoT.<br><br>5. The classification symbols of this subclass are not listed first when assigned to patent documents.<br><br>6. No systematic reclassification was done when this subclass was introduced. When searching using the symbols of this subclass it should be noted that many documents published before 2020 are not classified in subclass G16Y. |

*N = new note, M = modified note, D = deleted note

NOTE: The "Location" column only requires the symbol PRIOR to the location of the note. No further directions such as "before" or "after" are required.

# 2. A. DEFINITIONS

<u>Insert</u>:            The following new Definitions

## G16Y

## Definition statement

*This place covers:*

 IoT related aspects.

In this subclass, IoT is defined as a system that executes the following four processes.

- Physical objects (the "things") connected to a network sense and collect information from their internal state or external environment.

- The information sensed and collected by the objects is sent to a network space.

- The information is processed in the network space.

- The results obtained by information processing are fed back to the objects (the "things") or are output to other objects (other "things") or devices.

In other words, IoT is defined as a system consisted of three main components, namely: (a) physical objects ("things"), (b) network and (c) function, as defined in the Glossary.
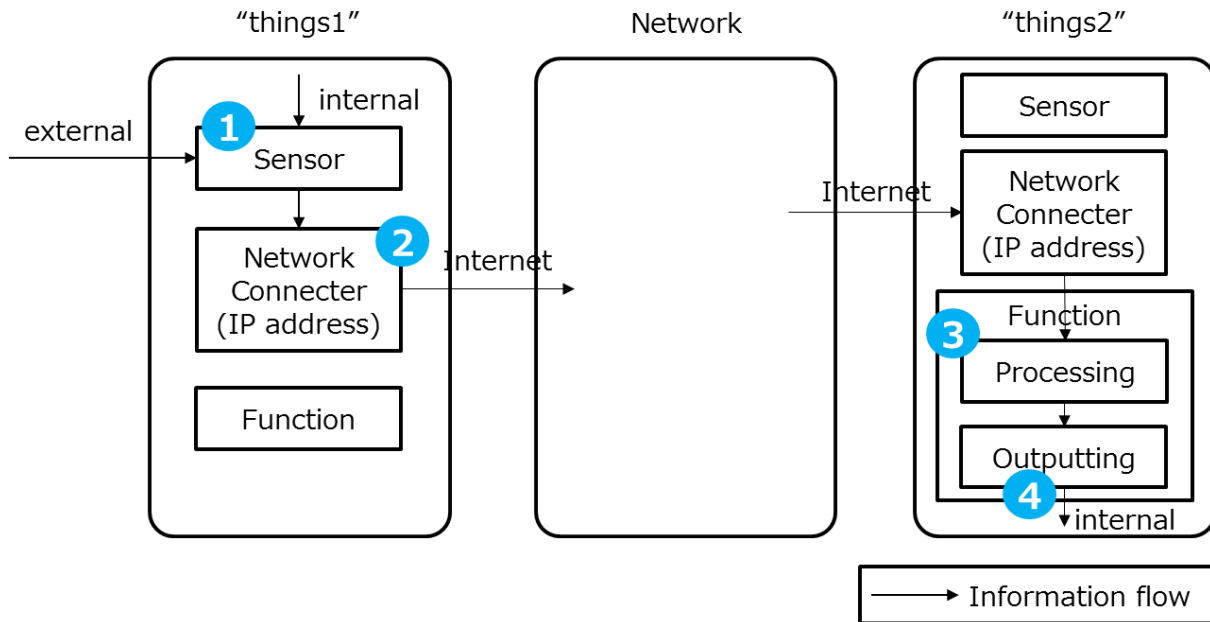
See illustrative examples below.
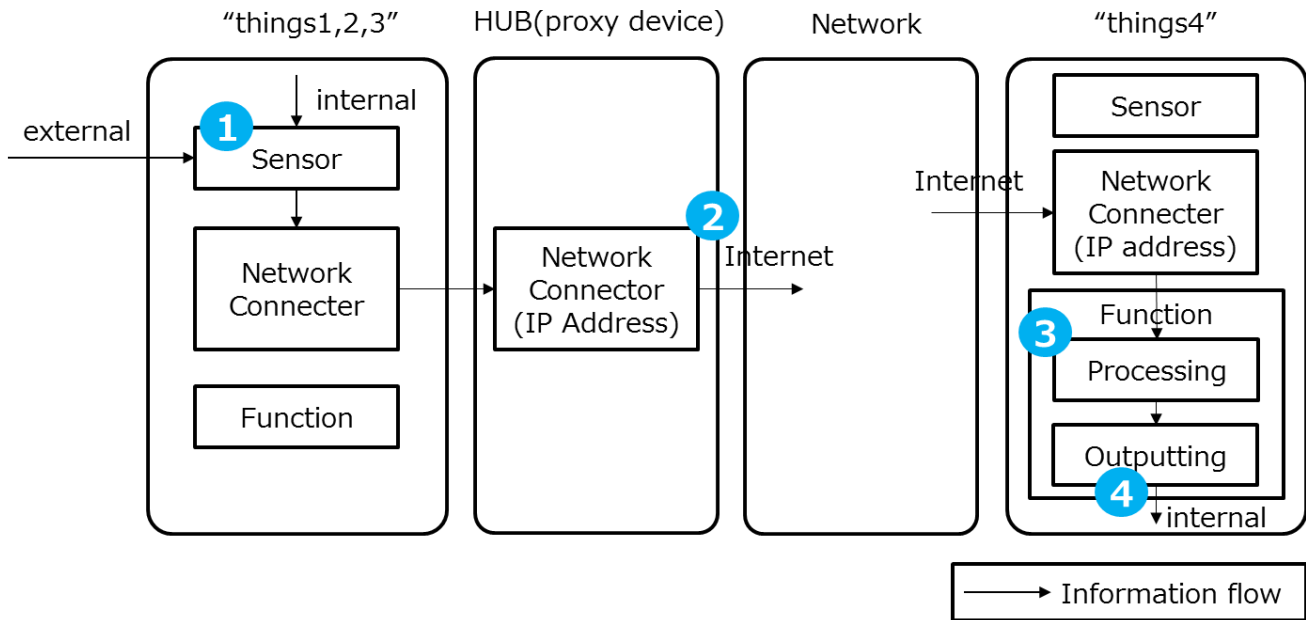
Illustrative image of IoT with server
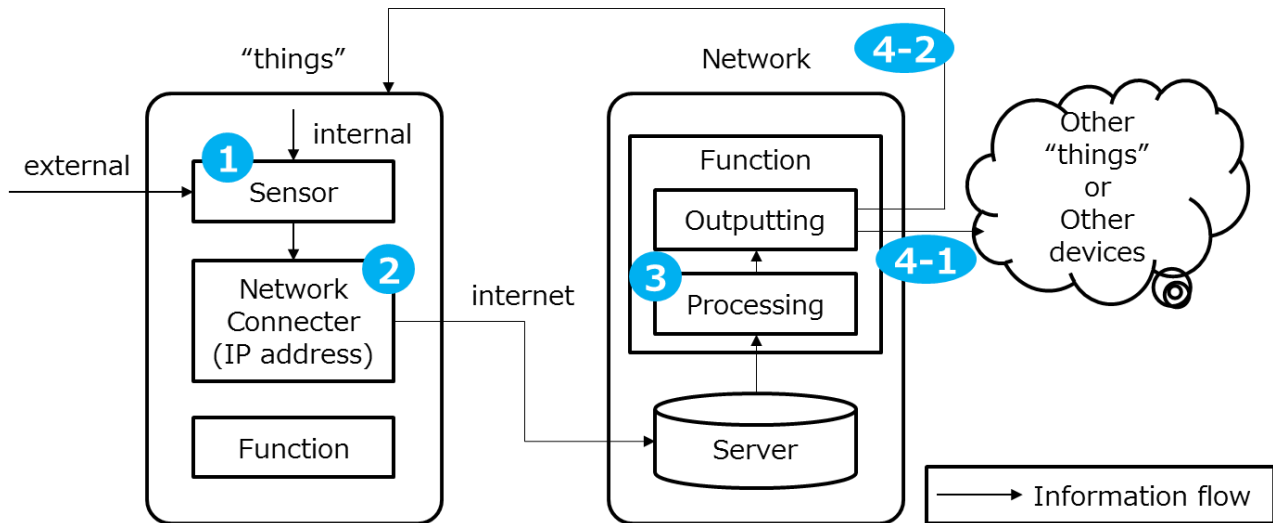


- Physical objects (the "things") sense and collect information.
- The objects have IP address and send the information to a server through internet.
- In the network space, the information is processed.
- The result of information processing is fed back to the objects (4-2) or output to other objects or other devices (4-1).

Illustrative image of IoT without server



- Physical objects (the "things") sense and collect information.
- The objects have IP address and send the information to other objects (other "things") through internet.
- The other objects process the information.
- The result of information processing is used by the other objects.

Illustrative image of IoT with HUB



- Physical objects (the "things") sense and collect information.
- The objects don't have IP address and send the information to other objects (other "things") through internet via HUB.
- The other objects process the information.
- The result of information processing is used by the other objects.

## Glossary of terms

| | |
|---|---|
| *In this place, the following terms or expressions are used with the meaning indicated:* Object | Objects (the "things") are embedded with technology enabling these objects to sense and collect information and connecting to network. Examples of such objects are: Objects, which perform specific functions with little or no electronic components, e.g. windows, doors or clothes; Objects, which include electronic components that perform specific functions independently from their functions for connecting to network, e.g. home electronic appliance and vehicles. On the other hand, generic computing and communicating devices, e.g. computer or laptop, on their own are not regarded as objects. However, in case that these devices are embedded in physical objects and enable the objects to sense and collect information and connect to network, then the devices can be regarded as a part of objects (the "things"). For example, smartphones, which are attached to vehicles to sense and deliver position data to a server, can be regarded as part of the objects. |
| Thing | see "object" |
| Function | Means processing information and outputting the results obtained by information processing. Processing information, here, includes: Complex information processing such as analysing input information, e.g. data analysis; Complex information processing such as creating control information from input information. Processing information, here, doesn't include; Simple or less complex information processing such as only monitoring input information without data analysis, e.g. security camera system. Simple or less complex information processing such as only conveying control information to operate device, e.g. remote control system. |
| Network | Means the communication system of interconnected objects which have their own IP addresses. A typical example of such network is the Internet. |

## G16Y 30/00

### Definition statement

*This place covers:*

The construction, setting, control, maintenance or management of IoT systems per se.

## G16Y 40/00

### Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

| | |
|---|---|
| Maintenance | The use of IoT for keeping an object condition to a certain level. |
| Management | The use of IoT for controlling an object under some policies or in order to achieve objective. |

4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

| CPC | IPC | Action* |
|-----|-----|---------|
| G16Y 10/00 | G16Y 10/00 | NEW |
| G16Y 10/05 | G16Y 10/05 | NEW |
| G16Y 10/10 | G16Y 10/10 | NEW |
| G16Y 10/15 | G16Y 10/15 | NEW |
| G16Y 10/20 | G16Y 10/20 | NEW |
| G16Y 10/25 | G16Y 10/25 | NEW |
| G16Y 10/30 | G16Y 10/30 | NEW |
| G16Y 10/35 | G16Y 10/35 | NEW |
| G16Y 10/40 | G16Y 10/40 | NEW |
| G16Y 10/45 | G16Y 10/45 | NEW |
| G16Y 10/50 | G16Y 10/50 | NEW |
| G16Y 10/55 | G16Y 10/55 | NEW |
| G16Y 10/60 | G16Y 10/60 | NEW |
| G16Y 10/65 | G16Y 10/65 | NEW |
| G16Y 10/70 | G16Y 10/70 | NEW |
| G16Y 10/75 | G16Y 10/75 | NEW |
| G16Y 10/80 | G16Y 10/80 | NEW |
| G16Y 10/90 | G16Y 10/90 | NEW |
| G16Y 20/00 | G16Y 20/00 | NEW |
| G16Y 20/10 | G16Y 20/10 | NEW |
| G16Y 20/20 | G16Y 20/20 | NEW |
| G16Y 20/30 | G16Y 20/30 | NEW |
| G16Y 20/40 | G16Y 20/40 | NEW |
| G16Y 30/00 | G16Y 30/00 | NEW |
| G16Y 30/10 | G16Y 30/10 | NEW |
| G16Y 40/00 | G16Y 40/00 | NEW |
| G16Y 40/10 | G16Y 40/10 | NEW |
| G16Y 40/20 | G16Y 40/20 | NEW |
| G16Y 40/30 | G16Y 40/30 | NEW |
| G16Y 40/35 | G16Y 40/35 | NEW |
| G16Y 40/40 | G16Y 40/40 | NEW |
| G16Y 40/50 | G16Y 40/50 | NEW |
| G16Y 40/60 | G16Y 40/60 | NEW |

*Action column:
- For an (N) or (Q) entry, provide an IPC symbol and complete the Action column with "NEW."
- For an existing CPC main trunk entry or indexing entry where the existing IPC symbol needs to be changed, provide an updated IPC symbol and complete the Action column with "UPDATED."
- For a (D) CPC entry or indexing entry complete the Action column with "DELETE." IPC symbol does not need to be included in the IPC column.

- For an (N) 2000 series CPC entry which is positioned within the main trunk scheme (breakdown code) provide an IPC symbol and complete the action column with "NEW".
- For an (N) 2000 series CPC entry positioned at the end of the CPC scheme (orthogonal code), with no IPC equivalent, complete the IPC column with "CPCONLY" and complete the action column with "NEW".

NOTES:
- F symbols are <u>not</u> included in the CICL table above.
- T and M symbols are not included in the CICL table above unless a change to the existing IPC is desired.