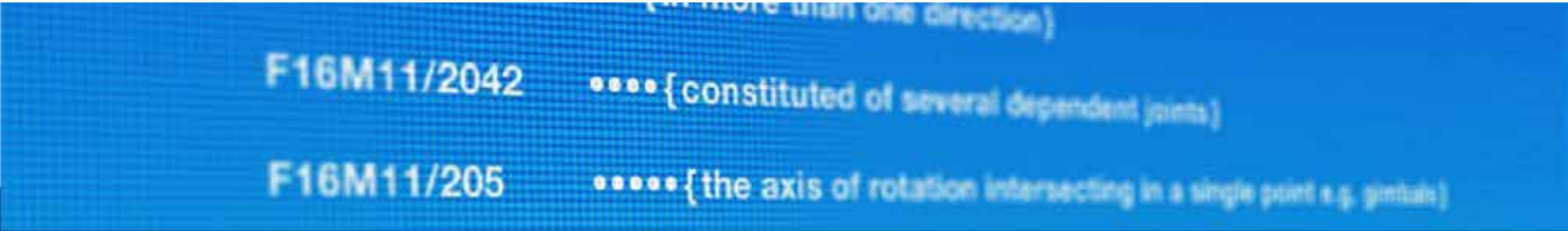
10th CPC annual meeting with offices classifying in the CPC

08-09 March 2023



Topics

- 10 years in the CPC
- CPC data coverage
- CPC harmonisation and training
- A dynamic CPC Scheme
- Update on Collaboration Environment tool

10 years in the CPC

From a bilateral initiative to a global international classification system

The start of an incredible adventure – October 2010

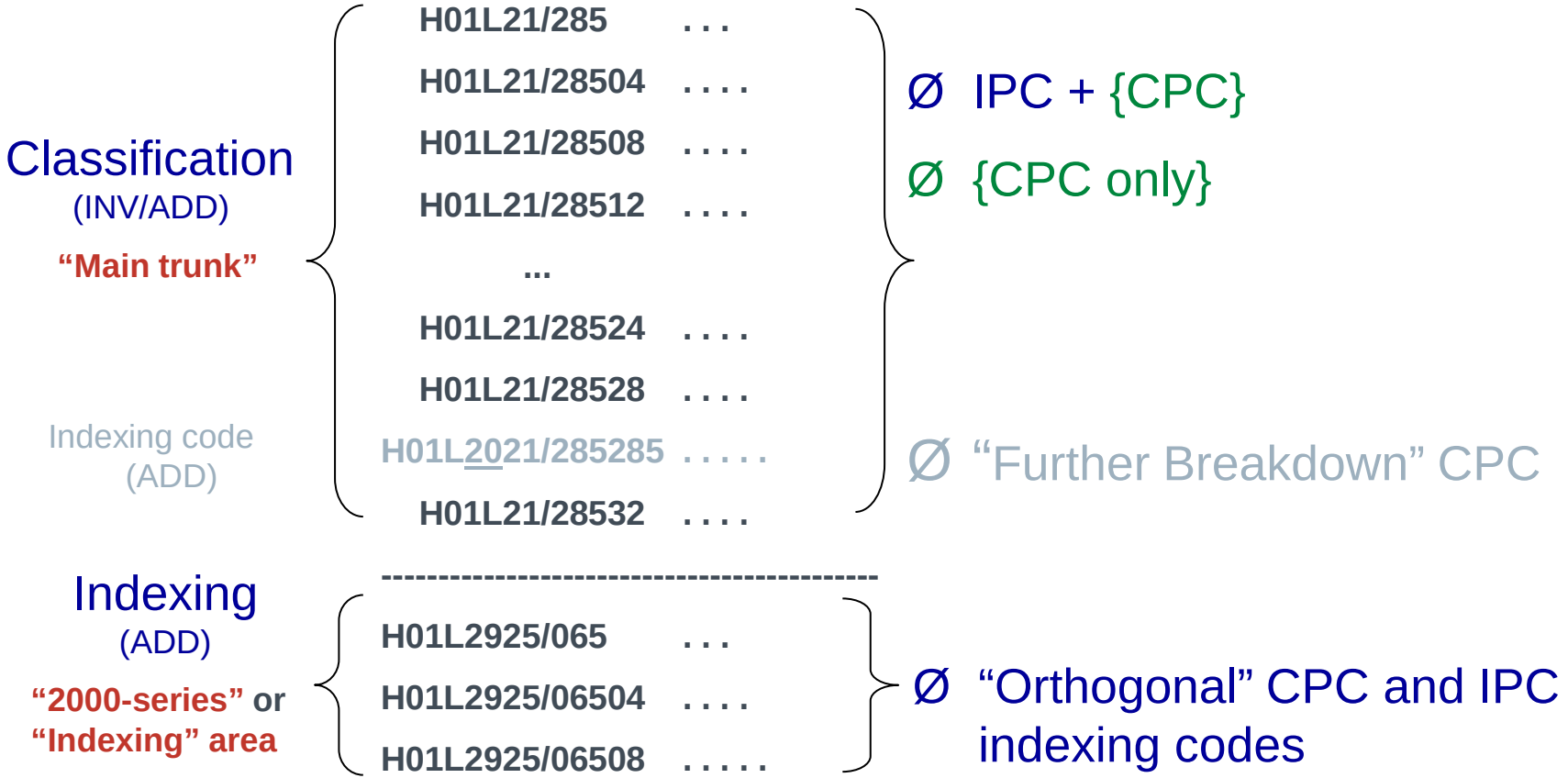
USPTO and EPO Work Toward Joint Patent Classification System

"In view of the significant benefit to stakeholders of developing a transparent and harmonized approach to a global classification system for patent documents; in order to make the search process more effective; and in the belief that cooperation between their two offices will facilitate progress in undertaking classification harmonization projects under the IP5 Common Hybrid Classification initiative, the USPTO and the EPO have agreed together to work toward the formation of a partnership to explore the development of a joint classification system based on the European Classification system (ECLA) that will incorporate the best classification practices of the two offices. This system would be aligned with the World Intellectual Property Organization (WIPO) classification standards and the International Patent Classification (IPC) structure. Accordingly, they have initiated discussions on governance and operational aspects of such a partnership.

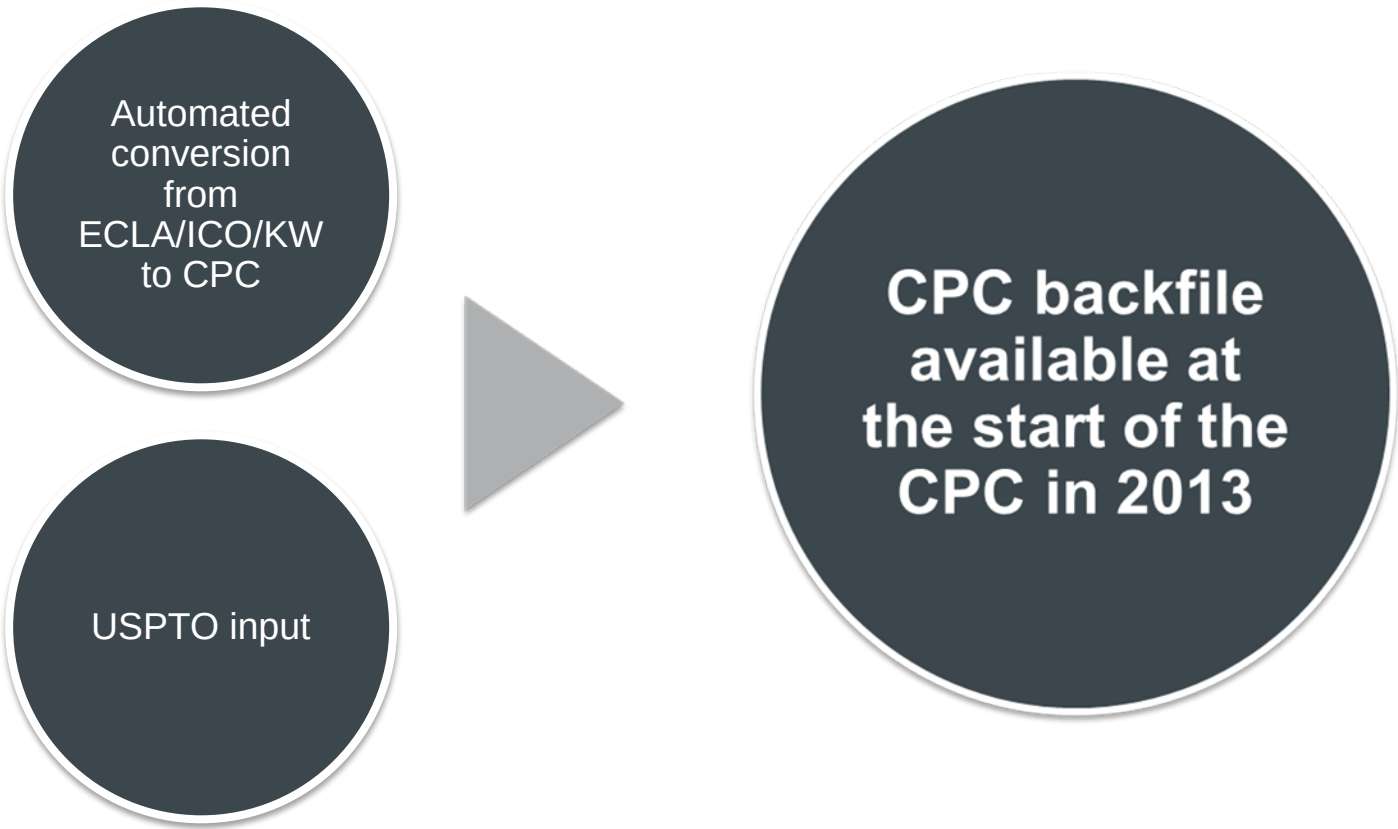
The IP5 partner offices will be continually apprised of progress at appropriate IP5 forums. Stakeholders will receive regular updates on the substance and progress of classification partnership discussions between the two offices."

October 25, 2010

CPC scheme – sections A-H



CPC backfile



CPC on EP publications

In **2021**:

§ CPC in the **European publication server**
https://data.epo.org/publication-server

§ CPC in the **European Patent Register**

Classification	**IPC:**	C08K5/00, C08K5/11, C08K5/12, C08K5/10, C08L27/06	[2020/31]
	CPC:	**C08K5/0016 (EP,RU,US); C08K5/10 (EP,US); C08K5/11 (EP,RU,US); C08K5/12 (EP,RU,US); C08L27/06 (EP,RU,US);** C08K2201/014 (EP,US); (+)	
	C-Set:	**C08K5/12, C08L27/06 (EP,US); C08K5/11, C08L27/06 (EP); C08K5/12, C08L27/06 (EP); C08K5/11, C08L27/06 (EP,US)**	

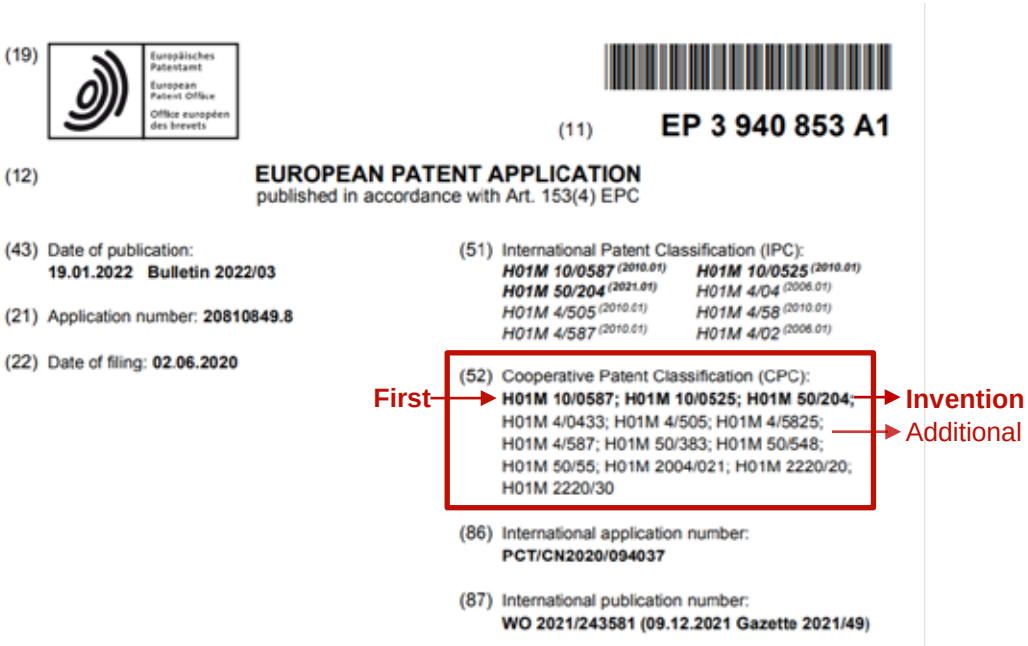
§ **CPC in the bibliographic data** of EP-A and EP-B publications (EBD)

§ CPC on EPO **Bulletin** PDFs

CPC on EP publications (2)

In **2022** (since week 3/2022 - 19 January 2022)

CPC displayed on the PDFs of EP publications!



(19) Europäisches Patentamt / European Patent Office / Office européen des brevets

(11) **EP 3 940 853 A1**

(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 153(4) EPC

(43) Date of publication:
19.01.2022 Bulletin 2022/03

(21) Application number: **20810849.8**

(22) Date of filing: **02.06.2020**

(51) International Patent Classification (IPC):
H01M 10/0587 *(2010.01)* ***H01M 10/0525*** *(2010.01)*
H01M 50/204 *(2021.01)* *H01M 4/04* *(2006.01)*
H01M 4/505 *(2010.01)* *H01M 4/58* *(2010.01)*
H01M 4/587 *(2010.01)* *H01M 4/02* *(2006.01)*

(52) Cooperative Patent Classification (CPC):
First → **H01M 10/0587; H01M 10/0525; H01M 50/204;** → **Invention**
H01M 4/0433; H01M 4/505; H01M 4/5825; → Additional
H01M 4/587; H01M 50/383; H01M 50/548;
H01M 50/55; H01M 2004/021; H01M 2220/20;
H01M 2220/30

(86) International application number:
PCT/CN2020/094037

(87) International publication number:
WO 2021/243581 (09.12.2021 Gazette 2021/49)

CPC on EP publications (3)

- See Patent Knowledge News for detailed information

14.2.2022

Making CPC available at the time of publication

Availability of the Cooperative Patent Classification (CPC) on the day of publication on published EP documents

The USPTO’s journey of CPC in past 10 years

- January 2013
  - EPO and USPTO launch CPC
- March 2013
  - First US Patent applications published with CPC symbols
- May 2013
  - First US Patent Grant published with CPC symbols
- January 2015
  - US Patent applications are no longer classified in USPC (except designs and plants)

The USPTO’s journey of CPC in past 10 years

US 20150100310A1

(19) **United States**

(12) **Patent Application Publication**
CHA et al.

(10) **Pub. No.: US 2015/0100310 A1**

(43) **Pub. Date: Apr. 9, 2015**

(54) **APPARATUS AND METHOD OF REDUCING NOISE AND AUDIO PLAYING APPARATUS WITH NON-MAGNET SPEAKER**

(71) Applicant: **SAMSUNG ELECTRONICS CO., LTD.**, Suwon-si (KR)

(72) Inventors: **A-ran CHA**, Goyang-si (KR); **Gun-woo LEE**, Suwon-si (KR); **Sang-chul KO**, Seoul (KR); **Young-sang LEE**, Siheung-si (KR); **Yoon-jae LEE**, Seoul (KR)

(73) Assignee: **SAMSUNG ELECTRONICS CO., LTD.**, Suwon-si (KR)

(21) Appl. No.: **14/509,447**

(22) Filed: **Oct. 8, 2014**

Related U.S. Application Data

(60) Provisional application No. 61/888,137, filed on Oct. 8, 2013.

(30) **Foreign Application Priority Data**

Jul. 8, 2014 (KR) 10-2014-0085353

Publication Classification

(51) **Int. Cl.**

G10L 21/0208	(2006.01)
G01R 33/28	(2006.01)
H04R 9/06	(2006.01)
G10L 21/0232	(2006.01)
H04R 1/28	(2006.01)
H04R 15/00	(2006.01)

(52) **U.S. Cl.**

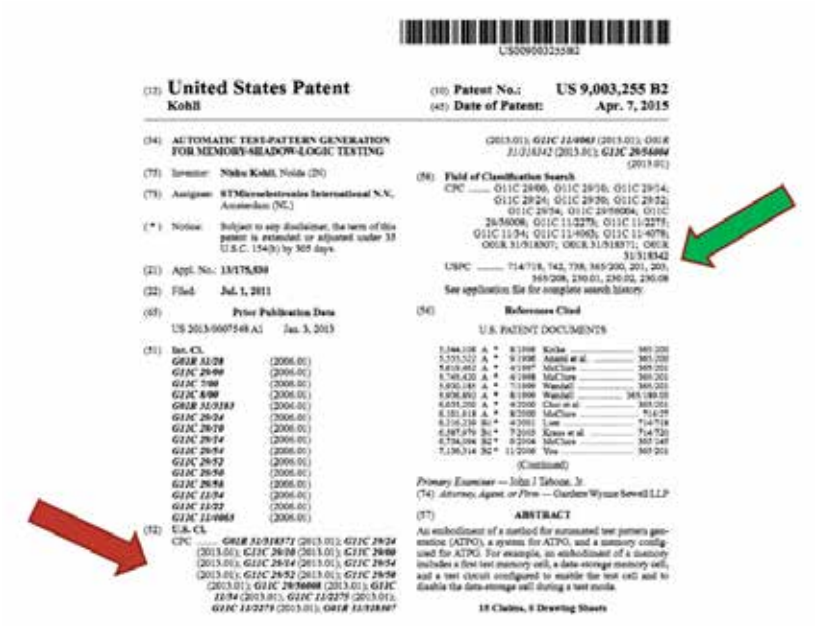
CPC ***G10L 21/0208*** (2013.01); ***H04R 1/288*** (2013.01); ***H04R 15/00*** (2015.01); ***H04R 9/06*** (2013.01); ***G10L 21/0232*** (2013.01); ***G01R 33/283*** (2013.01)

(57) **ABSTRACT**

An audio apparatus is provided. The audio apparatus includes an input configured to receive an audio signal containing noise; a period estimation unit configured to estimate a period of a noise pattern in the audio signal; a noise reducer configured to subtract and remove the noise pattern from the audio signal in a frequency domain by using the estimated period of the noise pattern; a noise updater configured to update the noise pattern according to a change in amplitude of the noise; and an output configured to output the audio signal obtained by removing the noise pattern.

The effective date for Pre-Grant Publication (A) change was 09 April 2015.

The USPTO’s journey of CPC in past 10 years



(12) **United States Patent**
Kohli

(10) **Patent No.: US 9,003,255 B2**
(45) **Date of Patent: Apr. 7, 2015**

(54) AUTOMATIC TEST-PATTERN GENERATION FOR MEMORY-SHADOW-LOGIC TESTING

(75) Inventor: **Nitin Kohli**, Noida (IN)

(73) Assignee: **STMicroelectronics International N.V.**, Amsterdam (NL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 305 days.

(21) Appl. No.: **13/175,830**

(22) Filed: **Jul. 1, 2011**

(65) **Prior Publication Data**

US 2013/0007548 A1 Jan. 3, 2013

(51) **Int. Cl.**

G01R 31/28	(2006.01)
G11C 29/00	(2006.01)
G11C 7/00	(2006.01)
G11C 8/00	(2006.01)
G01R 31/3183	(2006.01)
G11C 29/24	(2006.01)
G11C 29/10	(2006.01)
G11C 29/14	(2006.01)
G11C 29/54	(2006.01)
G11C 29/52	(2006.01)
G11C 29/50	(2006.01)
G11C 29/56	(2006.01)
G11C 11/34	(2006.01)
G11C 11/22	(2006.01)
G11C 11/4063	(2006.01)

(52) **U.S. Cl.**

CPC ***G01R 31/318371*** (2013.01); ***G11C 29/24*** (2013.01); ***G11C 29/10*** (2013.01); ***G11C 29/00*** (2013.01); ***G11C 29/14*** (2013.01); ***G11C 29/54*** (2013.01); ***G11C 29/52*** (2013.01); ***G11C 29/50*** (2013.01); ***G11C 29/56008*** (2013.01); ***G11C 11/34*** (2013.01); ***G11C 11/2275*** (2013.01); ***G11C 11/2279*** (2013.01); ***G01R 31/318307*** (2013.01); ***G01R 31/318342*** (2013.01); ***G11C 29/56004*** (2013.01)

(58) **Field of Classification Search**

CPC G11C 29/00; G11C 29/10; G11C 29/14; G11C 29/24; G11C 29/20; G11C 29/52; G11C 29/54; G11C 29/56; G11C 29/56004; G11C 29/56008; G11C 11/2275; G11C 11/2277; G11C 11/34; G11C 11/4063; G11C 11/4078; G01R 31/318307; G01R 31/318371; G01R 31/31/8342

USPC 714/718, 742, 738, 365/200, 201, 203, 365/208, 230.01, 230.02, 230.08

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

(Continued)

Primary Examiner — John J Tabone, Jr.
(74) *Attorney, Agent, or Firm* — Graham Wyman Sewell LLP

(57) **ABSTRACT**

An embodiment of a method for automated test pattern generation (ATPG), a system for ATPG, and a memory configured for ATPG. For example, an embodiment of a memory includes a first test memory cell, a data-storage memory cell, and a test circuit configured to enable the test cell and to disable the data-storage cell during a test mode.

10 Claims, 6 Drawing Sheets

The effective date for Patent Grant (B) change was 07 April 2015.

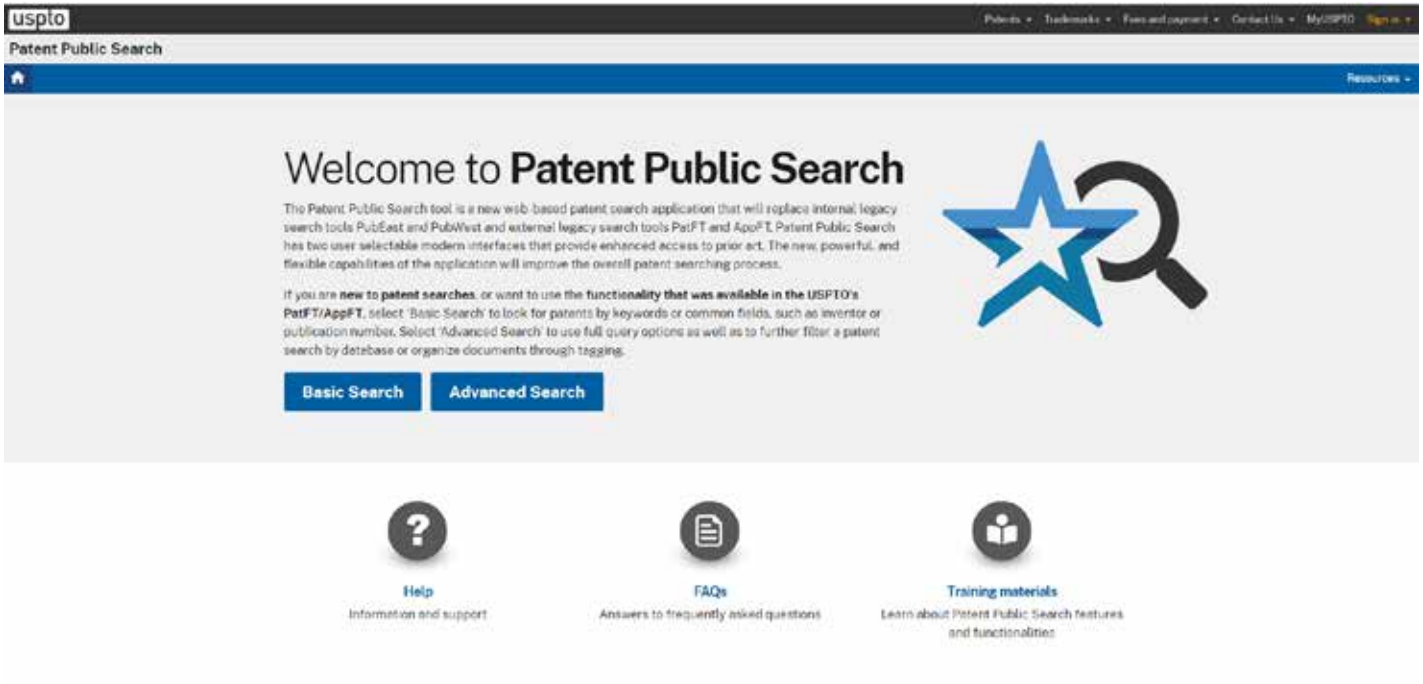
The USPTO’s journey of CPC in past 10 years

- **June 2013**
  - The USPTO and Korea signed an Agreement to classify into the CPC
- **May 2016**
  - The USPTO and Israel signed an Agreement to classify into the CPC
- **September 2018**
  - The USPTO and Chile signed an Agreement to classify into the CPC in near future

The USPTO’s journey of CPC in past 10 years

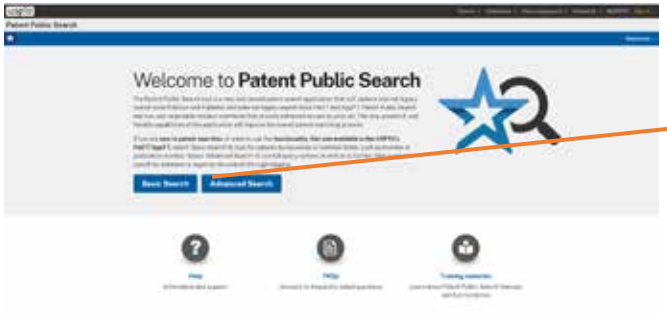
- **January 2019**
  - Research on Artificial Intelligence (AI) for classification
- **March 2020**
  - The USPTO transitions from USPC (United States Patent Classification) to CPC for internal purposes
- **December 2020**
  - The USPTO began to use Artificial Intelligence (AI) for preclassification

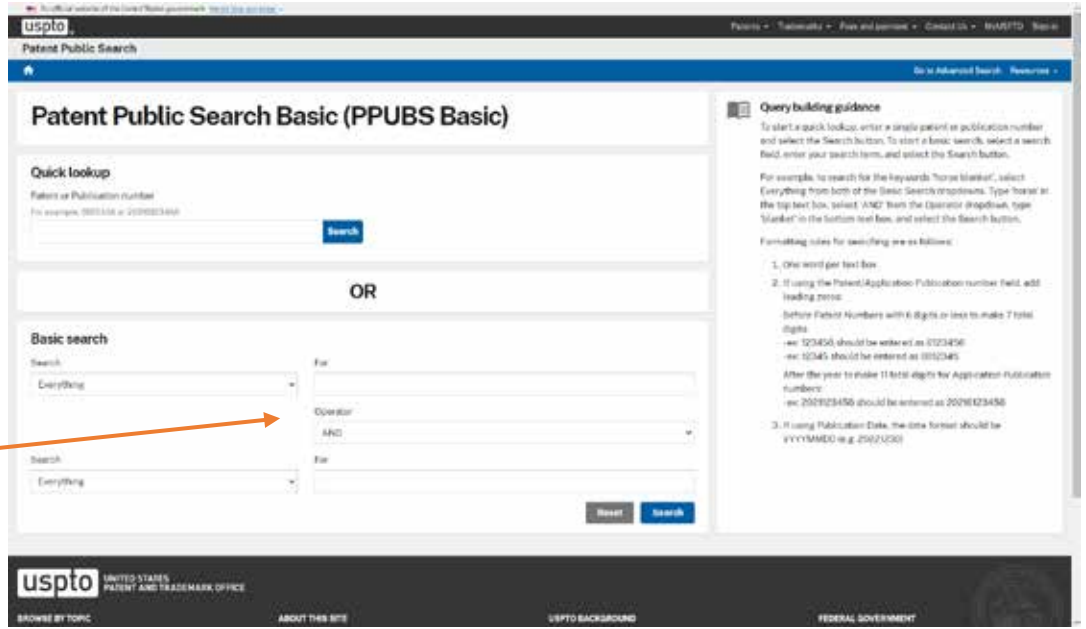
Patent Public Search at the USPTO:



[Patent Public Search | USPTO]

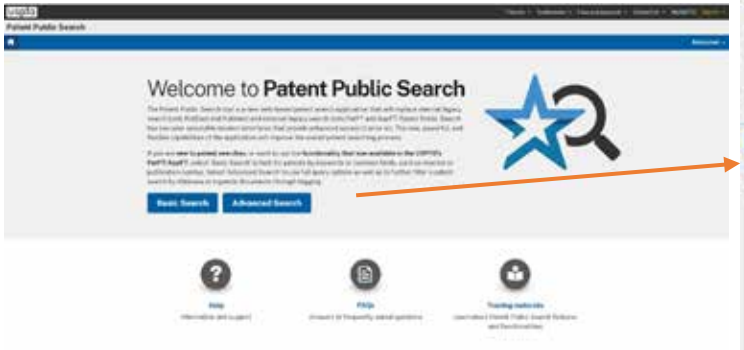
Patent Public Search at the USPTO:

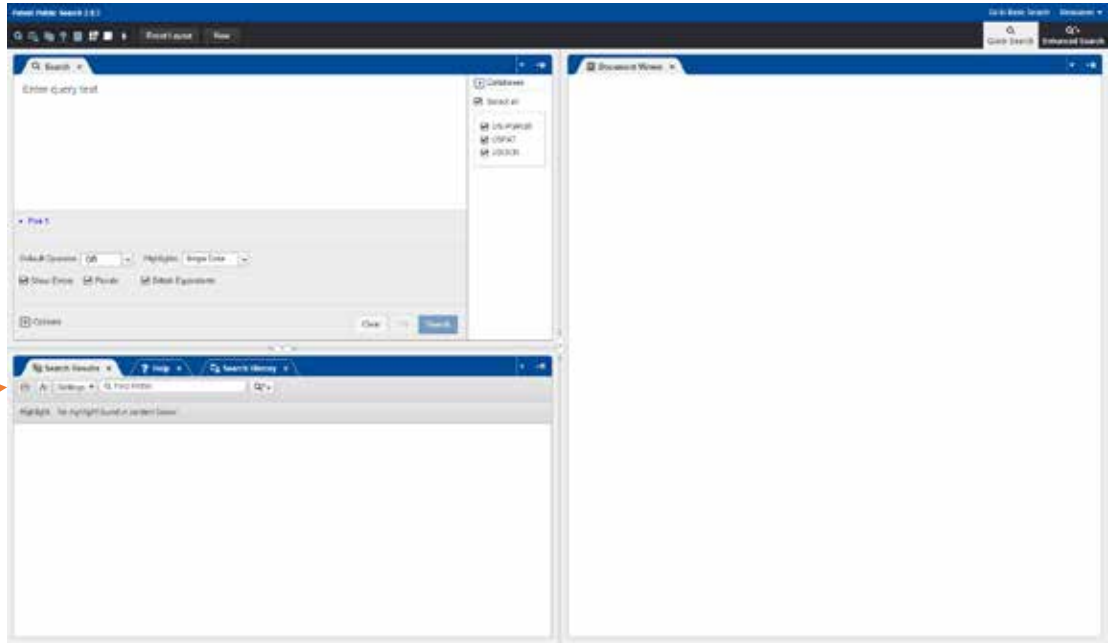




[Patent Public Search | USPTO]

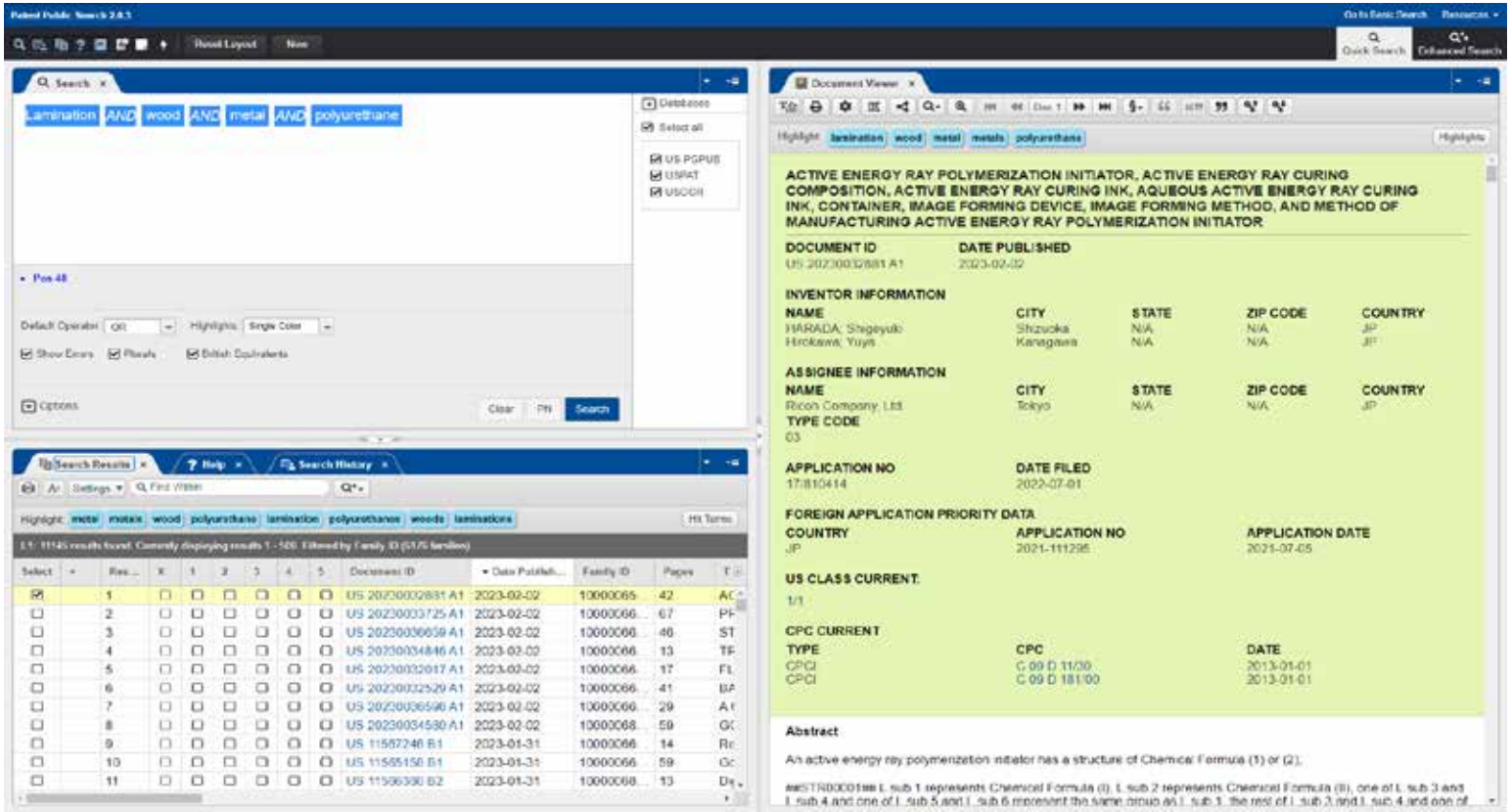
Patent Public Search at the USPTO:





[Patent Public Search | USPTO]

Patent Public Search at the USPTO:



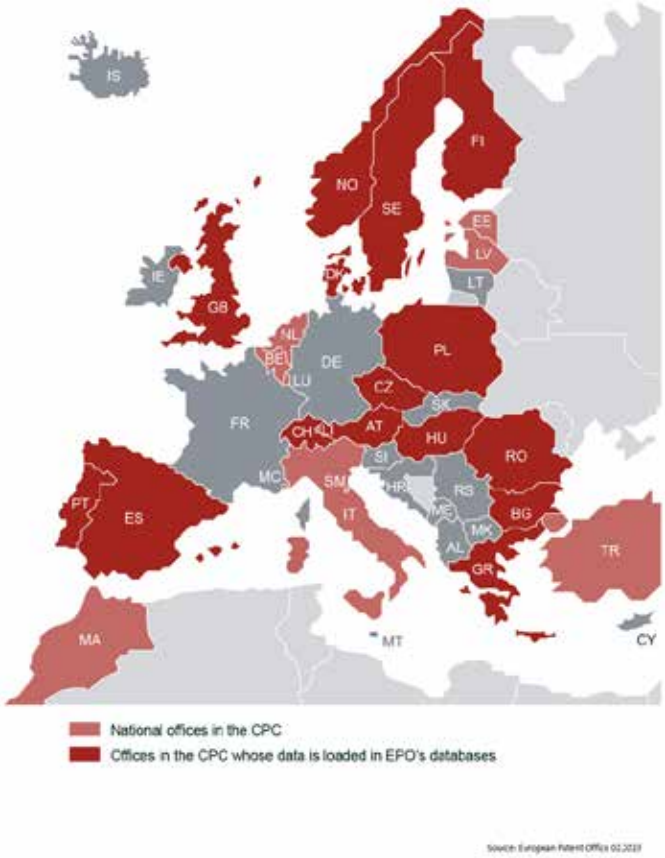
[Patent Public Search | USPTO]

From 2 to 38 CPC offices: a growing CPC community

- There are now 38 offices in the CPC (including the EPO and USPTO)
  - **Morocco** and **Bulgaria** joined the CPC in 2021
  - **Peru** signed a CPC MoU with the EPO (April 2022)
  - **Monaco** and **Belgium** joined the CPC in July 2022
  - **Italy** joined the CPC in September 2022
  - **Luxembourg** joined the CPC in December 2022
  - **Latvia** joined the CPC in February 2023

- Out of these 38 offices, 23 are EPO member states

23 EPO member states (besides the EPO) and **1 validation state in CPC**



Poland started exchanging CPC data with the EPO in May 2022

Some 2023 events where CPC will be presented:

- **10th CPC Annual meeting with National Offices**, 08-09 March 2023, will be virtual

- **10th CPC Annual meeting with Industry users**, 23 March 2023, will be virtual

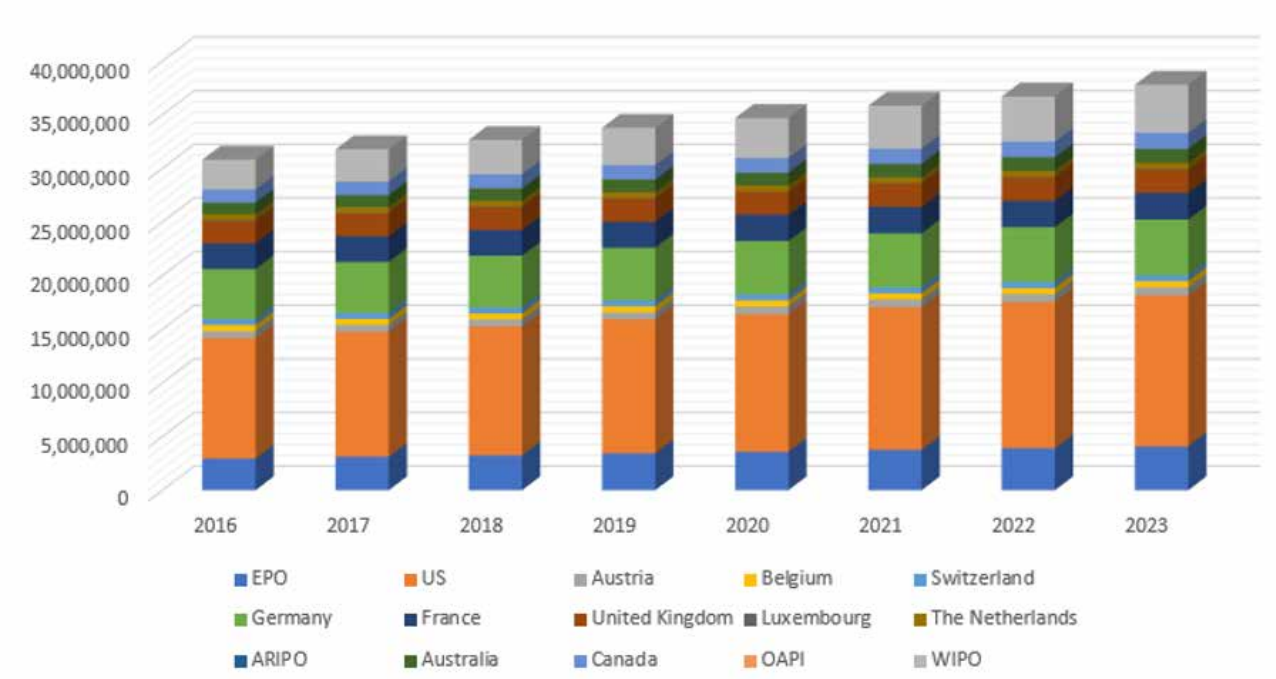
- **Patent Information Users Group (PIUG) 2023 Annual conference**, 30 April – 03 May, 2023, will be at Alexandria, VA

CPC data coverage

CPC coverage of systematically classified collection (1 January 2023)

Country	Country Code	Total number of applications (source: EPODOC on 01/01/2023)	Number of applications classified in CPC by national office	% of applications classified in CPC
EPO	EP	4.098.629	4.096.762	100,0%
United States	US-A + US-B Docs	14.097.985	14.090.217	99,9%
Austria	AT	1.013.446	729.761	72,0%
Belgium	BE	594.286	560.856	94,4%
Switzerland	CH	722.578	584.098	80,8%
Germany	DE	5.970.705	5.171.866	86,6%
France	FR	2.501.321	2.481.396	99,2%
United Kingdom	GB	2.441.097	2.185.906	89,5%
Luxembourg	LU	66.467	65.438	98,5%
The Netherlands	NL	559.518	546.766	97,7%
ARIPO	AP	5.538	4.300	77,6%
Australia	AU	1.618.994	1.307.194	80,7%
Canada	CA	2.621.952	1.495.979	57,1%
OAPI	OA	13.433	13.222	98,4%
WIPO	WO	4.484.513	4.475.523	99,8%
	TOTAL	40.810.462	37.809.284	

CPC coverage in past 10 years:

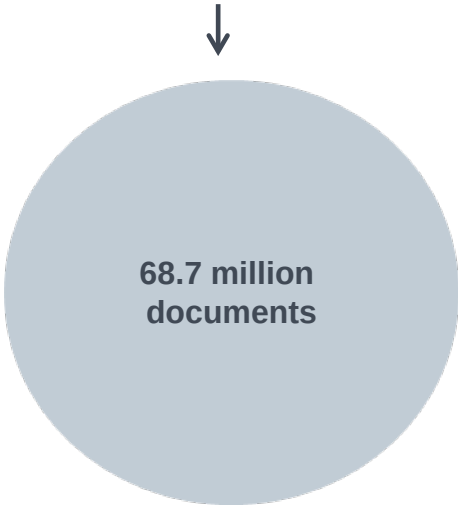


CPC data sent by 22 CPC offices (1 January 2023)

Country	Country Code	Total number of applications (source: EPODOC on 01/01/2023)	Overall number of publications classified in CPC (Family level)	Number of applications classified in CPC by national office on 01/01/2023
Australia	AU	1.618.994	1.307.194	18.831
Austria	AT	1.013.446	729.761	16.666
Brazil	BR	828.858	590.581	42.728
China	CN	33.630.811	12.595.182	8.922.381
Czech Republic	CZ	100.098	50.747	6.608
Denmark	DK	454.847	320.096	2.991
EAPO	EA	62.667	56.386	9.401
Finland	FI	200.657	123.621	16.602
Greece	GR	107.166	58.186	8.079
Hungary	HU	151.927	107.772	2.278
Israel	IL	155.566	140.821	36.322
Korea	KR	4.886.339	4.279.287	4.072.365
Mexico	MX	331.189	303.839	1.600
Norway	NO	212.982	187.546	13.755
Poland	PL	424.378	216.126	554
Portugal	PT	146.043	135.722	1.500
Romania	RO	76.906	17.212	661
Russian Fed.	RU	1.178.100	445.852	218.880
Spain	ES	1.540.827	824.456	42.443
Sweden	SE	526.755	341.048	150.240
Switzerland	CH	722.578	584.098	7.325
United Kingdom	GB	2.441.097	2.185.906	194.524
	TOTAL	50.387.853	25.385.313	13.786.734

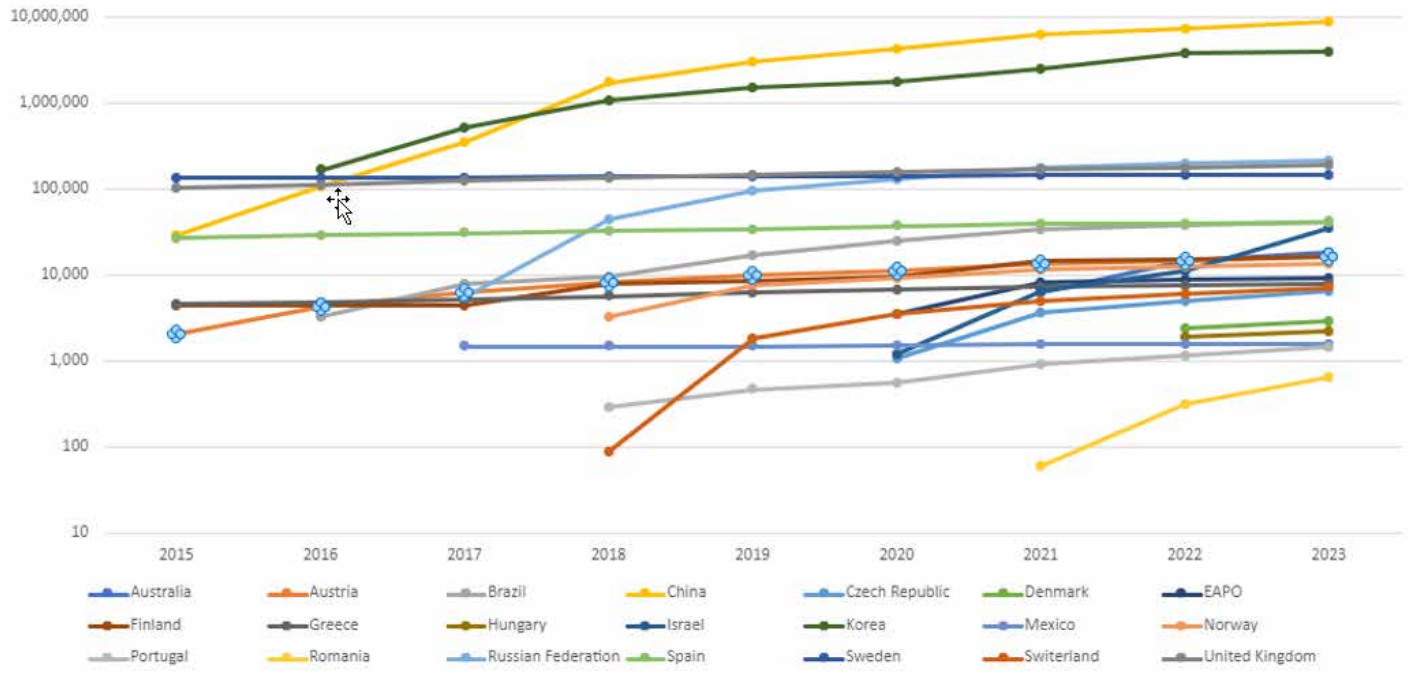
EPO core collection

+ CPC data from other offices
+ Family propagation
+ 1.5 Million NPL documents



68.7 million documents are now classified in the CPC as of 1 January 2023

CPC data sent by National Offices in past 10 years:

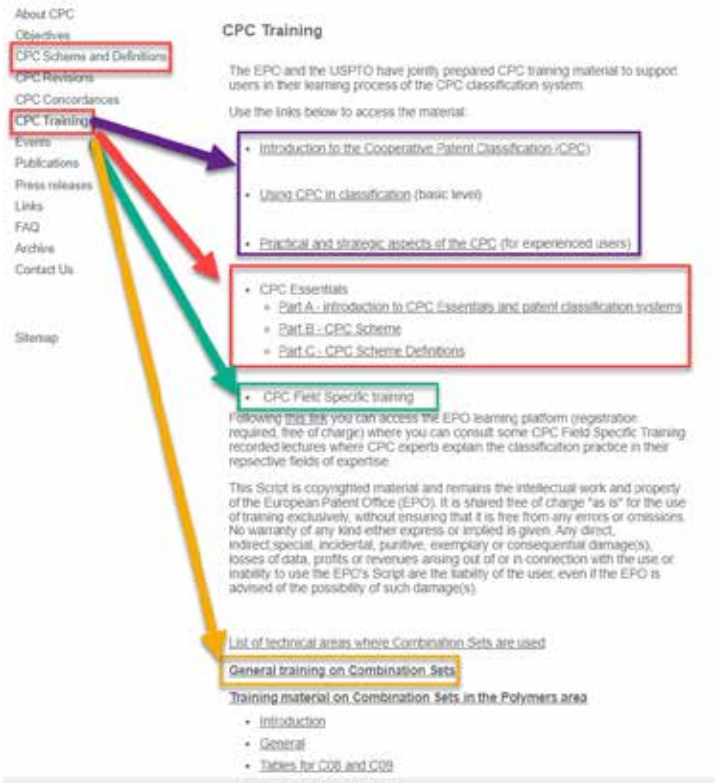


CPC harmonisation and training

Harmonisation plan EPO-USPTO

- Bilateral agreement on classification practice
- ~800 USPTO technical and classification experts discuss with ~680 EPO Classification Quality Nominees (Class-QNs)
- Standardisation of classification practice.

Want to know more about CPC classification practice?



- CPC Scheme and Definitions
- CPC General and Advance training
- E-learning modules:
  - Using CPC in classification
  - Practical and strategic aspects of the CPC
  - CPC essentials
  - General training on Combination sets
- CPC Field-specific training material
  - Recorded lectures on CPCinfo.org (European Patent Academy)

https://www.cooperativepatentclassification.org/Training

CPC collective training events

CPC Training went online!

Collective Training Events in 2022:

B64G, B65G, A61B 5/00, A24F, H02K, H01L33 (spring sessions)

H04R, G10L13-17/26 & G10L25-99, A61L15-33/18, A45B, B65B, C12N9/C07K14 (autumn sessions)

Collective Training Events in 2023 (March – June 2023)

A61K33, B25B, C01G, C08F14, F28, G01C, G01P, H01P

Registration is open until 22 March 2023) via OS08-2023

(full url: https://www.epo.org/learning/training/details.html?eventid=16058)

CPC training on the CPC website

CPC Training

CPC Training

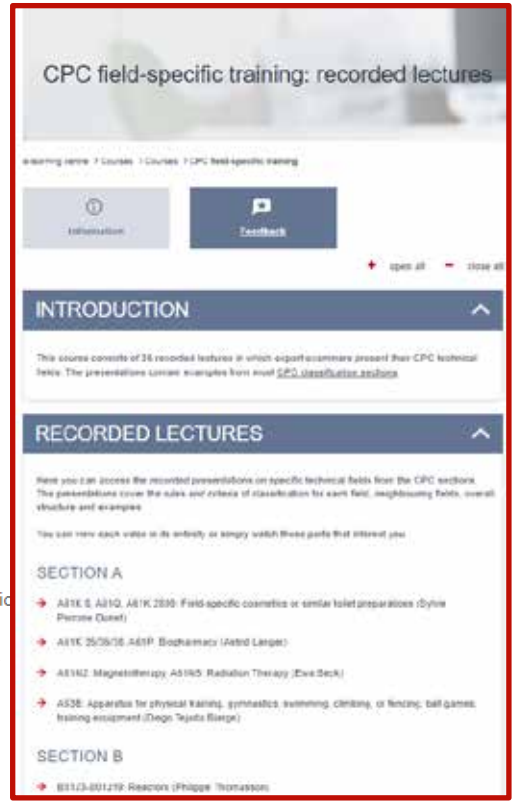
The EPO and the USPTO have jointly prepared CPC training material to support users in their learning process of the CPC classification system.

Use the links below to access the material:

- Introduction to the Cooperative Patent Classification (CPC)
- Using CPC in classification (basic level)
- Practical and strategic aspects of the CPC (for experienced users)
- CPC Essentials
  - Part A - introduction to CPC Essentials and patent classification systems
  - Part B - CPC Scheme
  - Part C - CPC Scheme Definitions

- CPC Field Specific training

Following this link you can access the EPO learning platform (registration required, free of charge) where you can consult some CPC Field Specific lectures where CPC experts explain the classification practice in their repsective fields of expertise.



https://www.cooperativepatentclassification.org/Training

USPTO updates on CPC Training

Customize unique technical expert training for each office (at USPTO or National Office location)

- General training
- Master level training
- Advanced training in specific technical field
- C-set training
- Computer Based Training (CBT) e-learning modules
- Field-Specific Training (FST) on CPC Scheme/Definitions

USPTO updates on CPC Training

Customize unique classification workshop for external stakeholders (at Regional Offices of the USPTO)

- General training
- Advanced training
- Field specific training on CPC Scheme/Definition
  - New Emerging Technologies
- C-set training

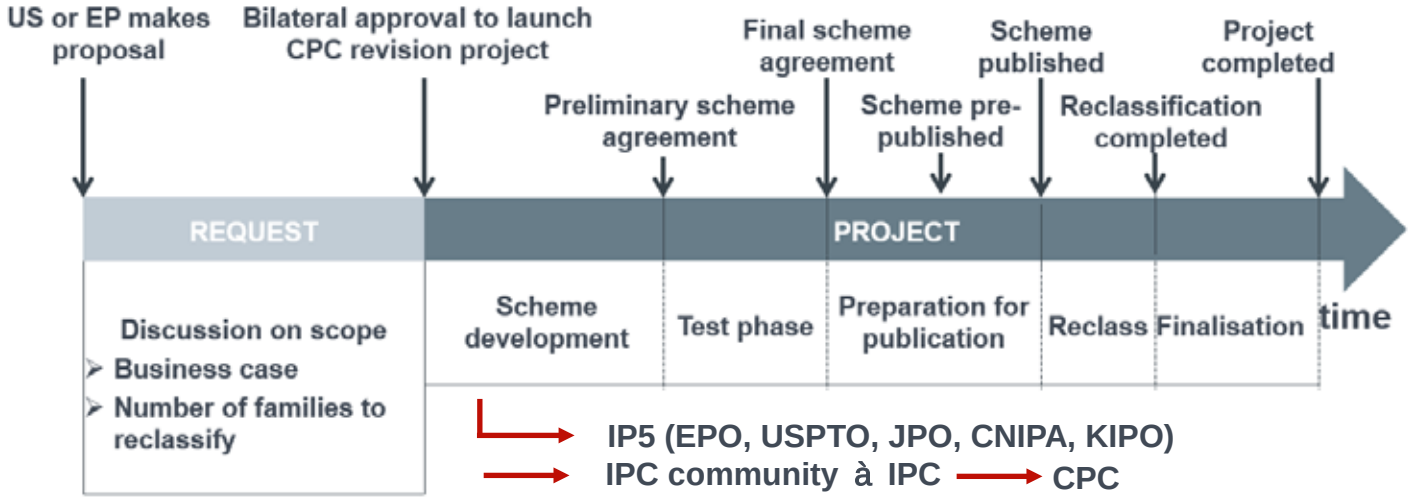
A dynamic CPC scheme

Keeping CPC updated with on-going technological developments

CPC kept being updated: CPC revisions

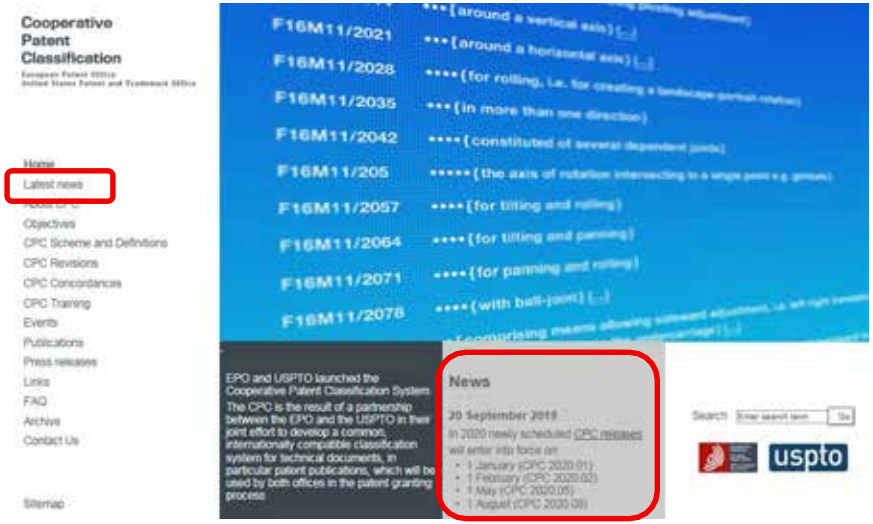
§ **Adaptations** of the CPC scheme are **triggered** by:
- EPO / USPTO / patent offices' examiners
- Classification departments

§ **CPC bilateral revision process:**



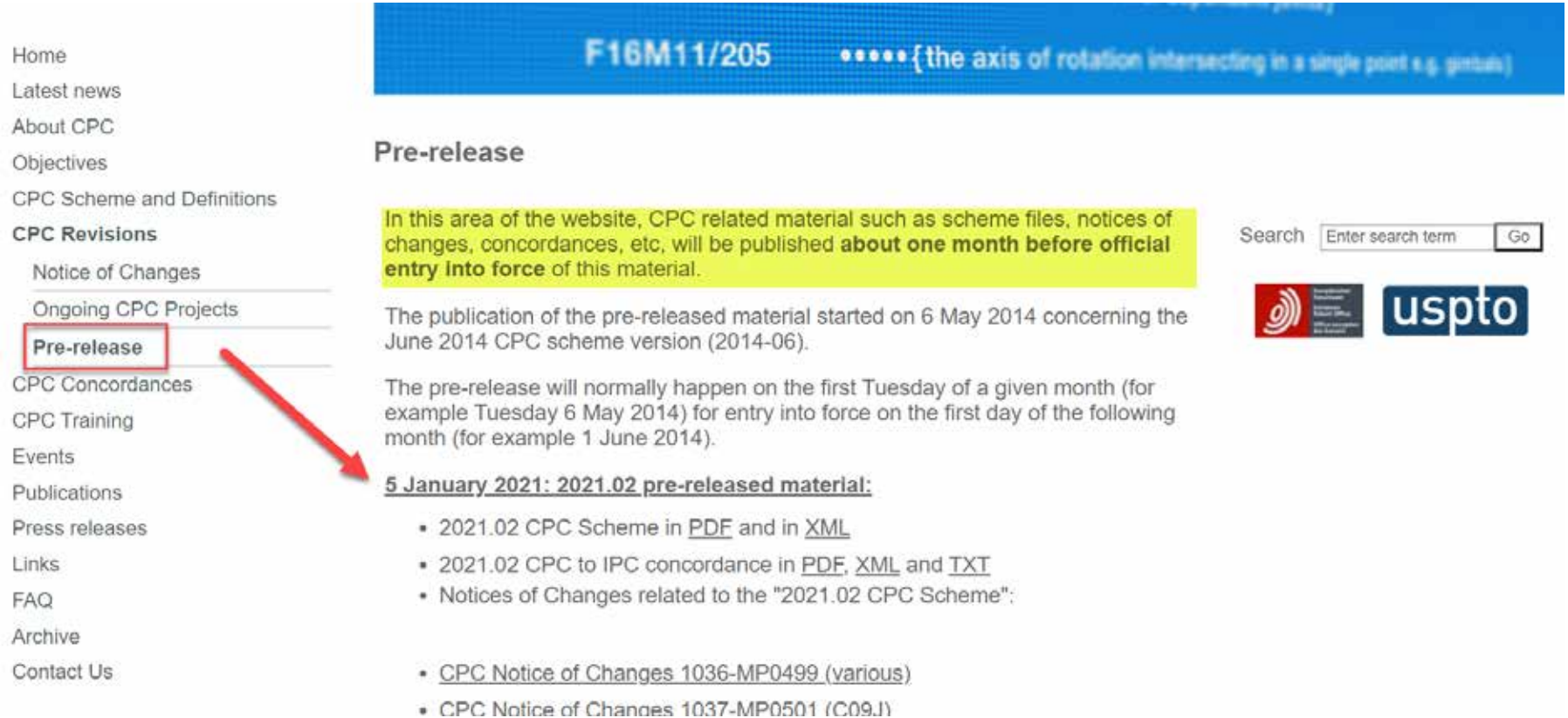
CPC Release Schedule

- Four releases per year
- Announced under "Latest News" section on www.cpcinfo.org



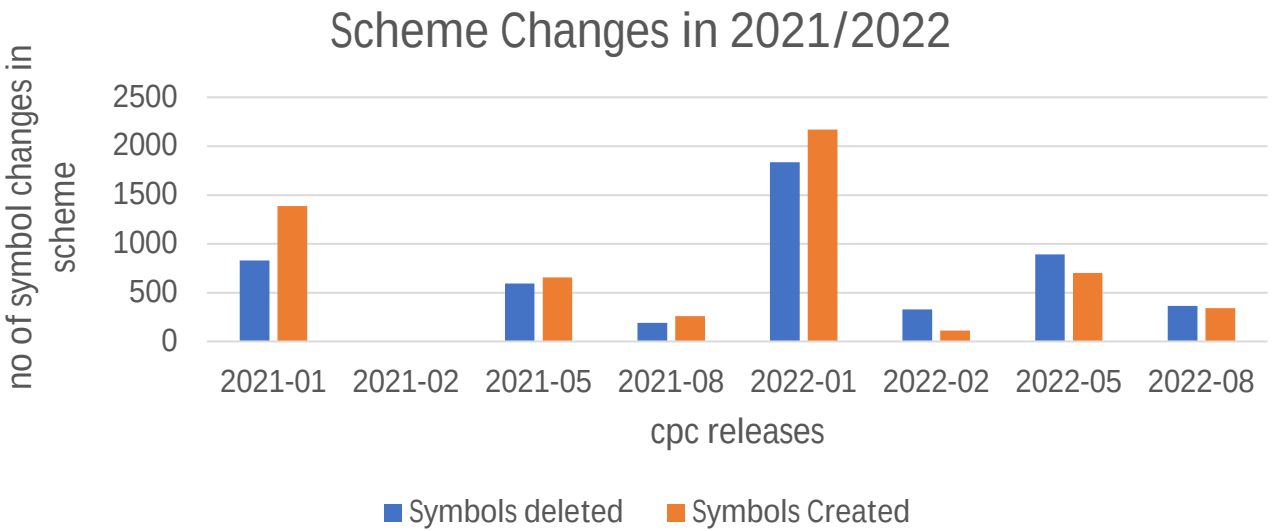
- Four CPC releases in **2023**:
  - 1 January 2023 CPC 2023.01
  - **1 February 2023 CPC 2023.02**
  - 1 May 2023 CPC 2023.05
  - 1 August 2023 CPC 2023.08

CPC revisions – pre-release area



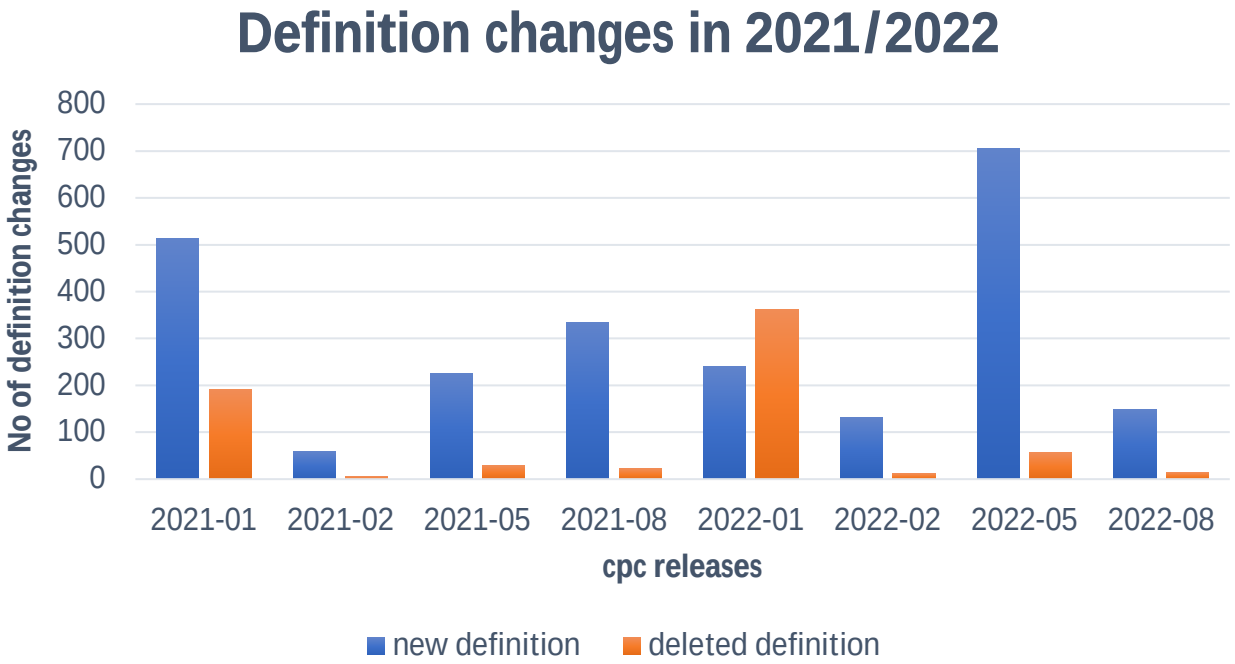
Scheme Changes in 2021/2022:

- Number of created new symbols
- Number of deleted symbols

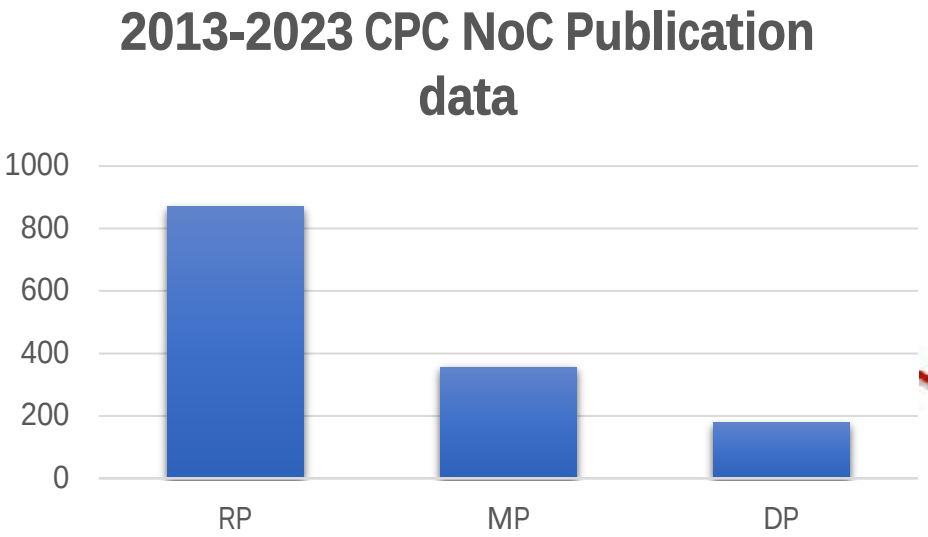


Definition Changes in 2021/2022:

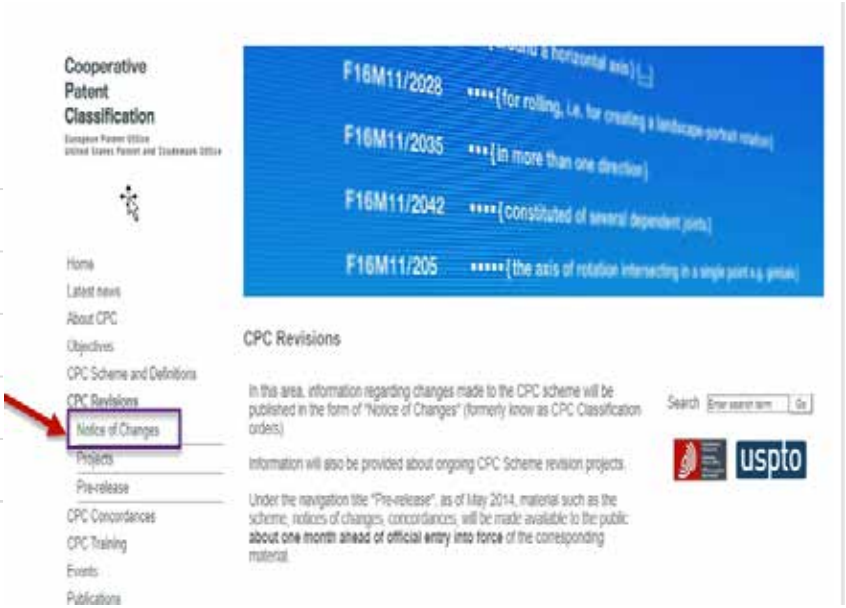
- Number of new definitions
- Number of deleted definitions



CPC Notices of Changes (NoC) 2013 – 2023:



Year	RP	MP	DP
2013-2023	870	357	178



Reclassification efforts at the USPTO and the EPO:

- After CPC revisions **group inventories need to be reclassified** accordingly; this constitutes the maintenance of the system, which is carried out by the USPTO, the EPO and other CPC offices.

- EPO’s and USPTO’s objective is to reclassify documents **within a year** past the publication date of their respective CPC releases.

- In past 10 years, the USPTO and the EPO reclassified more than **2.2M** family documents.

Update on the CPC Collaborative Environment (CPC-CE)

Background

- Goal: Increase the quality and efficiency of Classification revision by enhancing work-sharing and information exchange between Intellectual Property (IP) Offices for revision projects

- Suite of bilateral collaboration tools, commonly referred to as the CPC Collaborative Environment (CPC-CE or CE), that replaced CPC e-Forum (CEF)

Current State

- Minimum Viable Product (MVP) launched bilaterally between the USPTO and the European Patent Office on 1 January 2022
- CEF decommissioned on 31 December 2021 by migrating all active projects to CE
- No access for other IP Offices

Next Steps

- **Increase bilateral tool performance and capabilities**
  - Platform stability
  - Complete WMS functionality
  - Project Management Dashboards
  - Expand Advanced Editor functionalities to include enhanced Quality Validation and Direct Data Feed to Scheme Publication
- **Phased expansion of CE to other IP Offices**
  - Static data feeds on project status and timelines
  - Read capability of certain aspects of the CE Workflow Management System (WMS)
  - Ability to provide input on current, as well as future, projects within CE

Thank you for your attention!

More info?

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