|  |  |  |
| --- | --- | --- |
|  | INTERNATIONAL TELECOMMUNICATION UNION**TELECOMMUNICATIONSTANDARDIZATION SECTOR**STUDY PERIOD 2022-2024 | TSAG-TD299 |
| TSAG  |
| Original: English |
| **Question(s):** | N/A | Geneva, 30 May – 2 June 2023 |
| **TD** |
| **Source:** | Associate Rapporteur, TSAG RG-IEM |
| **Title:** | Revised baseline text of “RG-IEM study on a mechanism to address new and emerging technologies in ITU-T” |
| **Contact:** | Arnaud TaddeiAssociate Rapporteur, TSAG RG-IEM Broadcom, United States | Tel: +41795061129E-mail: Arnaud.Taddei@broadcom.com |

|  |  |
| --- | --- |
| **Abstract:** | This TD provides the revised baseline text of “RG-IEM study on a mechanism to address new and emerging technologies in ITU-T” based on TSAG-C031. |

RG-IEM study on a mechanism to address new and emerging technologies in ITU-T

**1 – Introduction**

As a starting point, this document is studying the item 3 of the Terms of Reference (ToR) of RG-IEM as per section D.7 of Annex D of the (Draft) Report of the first TSAG meeting (Geneva, 12-16 December 2022) contained in [TSAG-TD004R1](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0004/en):

* *Establish an appropriate mechanism at TSAG level to be used at the study group level and at the Focus group level to examine and coordinate work on new and emerging technologies (Res.22 resolves 5, 6, 7).*

**2 – Rationale**

 Addressing the above instruction can be approached in a multitude of ways from pragmatic, conservatist, reformist, etc. and

* in one hand, there is the recognition that the issue is by far not new and still unresolved,
* and on the other hand, precisely because it is still unresolved, that there is the temptation to purge all the knowledge and help RG-IEM to allow itself to take an open-minded and fresh look at the issue.

As this issue is very difficult to resolve (if at all feasible), this study:

* organises a small set of solid steps to progress the work
* start by a thorough analysis,
* develop candidate mechanisms,
* help align members to find a consensus on which candidate mechanism to choose,
* develop the ToR of this mechanism,

Approach taken is by breaking the problem in smaller pieces noted Pn:

Table 1 – RG-IEM ToR item breakdown

|  |  |
| --- | --- |
| **Piece #** | **RG-IEM ToR item extract** |
| P1 | *establish an appropriate mechanism at TSAG level* |
| P2 | *to be used at the SG and FG level* |
| P3 | *to examine and coordinate work* |
| P4 | *on new and emerging technologies* |
| P5 | *Res.22 resolves 5,6,7* |

In annex (see Annex A - Problem analysis) a very detailed first analysis reviews each of P1 to P5 and shows:

* the necessity to break the problem in pieces,
* the work required to address each piece,
* the necessity to establish an action plan.

**3 – RG-IEM Study**

The proposed study is constituted by:

1 – Clarify the interactions between the Res.22 resolves 5, 6 and 7. In particular:

1.1 –, clarify the interactions between the constituencies of these 3 resolves and specifically between “*new and emerging technologies*”, “*standardisation strategies*”, “*coordination*”, “*assignations*”, “*trends*”, etc.,

1.2 – establish a model that can provide a context to the other elements of the study.

2 – Scope the term “*new and emerging technologies*”. In particular:

2.1 – identify a broader set of terms in relation to “*new and emerging technologies*”, e.g. “*hot topics*”, “*next big things*”, “*trends*”, etc. (see [RGIEM-DOC2 (230505)](https://extranet.itu.int/meetings/ITU-T/T22-TSAGRGM/RGIEM-230505/DOCs/T22-TSAGRGM-RGIEM-230505-DOC-0002.docx) for initial research on a broad meaning for ‘new and emerging technologies’),

2.2 – scope and if possible provide definitions to each term.

3 – Precise the terms “*examine and coordinate*”.

4 – Clarify the term “*to be used*”, recognize the nature of the dynamics between entities and propose a model of collaboration.

5 – Propose candidate mechanisms and decide which is the most suited one.

6 – Compose a ToR for this mechanism based on the results of all the above items.

7 – RG-IEM to produce a report to TSAG containing the recommendations to TSAG and a proposed ToR for the mechanism to address new and emerging technologies.

1. Problem first analysis

This annex reviews each element of *Table 1 – RG-IEM ToR item breakdown* but in the reverse order as context will significantly matter.

A.1 – First analysis on P5 “Res.22 resolves 5,6,7”

Remembering the “*Res.22 resolves 5,6,7*”:

*“5 that TSAG consider the implications, for ITU-T, of market needs and new and emerging technologies that have not yet been considered for standardization by ITU-T, establish an appropriate mechanism to facilitate the examination of their consideration, for example assigning Questions, coordinating the work of study groups or establishing coordination groups or other groups, and appoint their chairmen and vice-chairmen;*

*6 that TSAG review and coordinate standardization strategies for ITU-T by identifying the main technological trends and market, economic and policy needs in the fields of activity relevant to the mandate of ITU-T, and identify possible topics and issues for consideration in ITU-T's standardization strategies;*

*7 that TSAG establish an appropriate mechanism to facilitate standardization strategies, for example assigning Questions, coordinating the work of study groups or establishing coordination groups or other groups, and appoint their chairmen and vice-chairmen;”*

Reading the resolution gives a richer context for the RG-IEM ToR and as well shows 3 resolves that indeed must be considered “en block”.

Resolve 5 gives a context if not a hint of a definition for the term “*new and emerging technologies*”[[1]](#footnote-1):

* this is within a “***market”*** context,
* and it is **not every single** “*new and emerging technologies*”,
* but those “***that have not yet been considered for standardization by ITU-T*”**.

Whilst this scoping is very welcome, there is probably something missing and perhaps to be considered for the future that the part “*that have not yet been considered for standardization by ITU-T”* could be completed with something along the lines:

* “… assuming a) inter sector coordination is in place…”[[2]](#footnote-2) and
* “… and b) there should be no duplication of work with other SDOs …”[[3]](#footnote-3)

Then in the resolves 6, the concept of new and emerging is broadened to the term “*the main technological trends …*” and “*possible topics and issues*” for “*standardization strategies*” seems to be linked to how the previous study period approached the problem through the TSAG rapporteur group on standardization strategies (RG-SS) with the ‘Hot Topics’ approach.

And resolves 6 seems to make a transition between resolves 5 and resolves 7 by which “*TSAG establish an appropriate mechanism to facilitate standardization strategies”.*

This above raises many questions[[4]](#footnote-4):

* Are the mechanisms mentioned in resolves 5 and 7 be separate or part of the same “über” mechanism?
* Resolution 22 seems to recognize the link between new and emerging topics vs standardization strategies?
* What are the standardization strategies and where are they defined? By whom? And is it in contradiction of the bottom up “gravitation” nature of the ITU-T?
* Why is the ToR for RG-IEM focusing only on the new and emerging technologies when the scope of the semantic of the Resolution 22 is different?
* Why now? Is there implicit recognition that so far approaches have failed?
* Can we just stick to finding a definition to “*new and emerging*” when now we see the term can be broadened with terms such as “trends” and “hot topics”?

A.2 – First analysis on P4 “on new and emerging technologies”

This piece of the ToR item calls for a number of questions starting with:

* where is “*new and emerging technologies*” defined?

A first pass analysis in Annex B - Research on a broad meaning for ‘new and emerging technologies’ shows no definition of “*new and emerging technologies*” anywhere.

The analysis reveals that[[5]](#footnote-5):

* the term has many variations and synonyms and is used inconsistently across ITU-T,
* 49% of the updated Resolutions at WTSA20 mention it or its variations mostly directly,
* out of these 49%, 66% of the Resolutions are mentioning it in their Operative part,
* some Resolutions have dependencies on it (e.g. accessibility, measurement, etc.),
* some Resolutions clearly recognize the tie with strategies (irt above Resolve 6 and 7),
* some Resolutions who ought to have it, don’t have it (e.g. Res. 68),
* there are therefore many instructs with various requirements.

Moreover, the previous study period worked on an overlapping terminology of “*Hot Topics*” and “*Next Big Things*” which would be worth considering in this analysis:

* [[TSAG-TD0764](https://www.itu.int/md/T17-TSAG-200210-TD-GEN-0764/en)] *Hot Topics Repository*, was a work in progress that started to structure a number of topics from which some were “new and emerging” and started to show a “database structure” was required including properly documented with a number of metadata:
	+ categories, category identifier,
	+ sub-categories, sub-category identifier,
	+ entities concerned,
	+ metadata (source type, source references, status, date of entry, date of update, global measurement),
	+ journaling by entity with types of events (achievements, work program, workshop, others, etc.).

In this above document and the above list of metadata, the previous study period started, after a strong clean-up work, to prioritise the definition of “global measurement” which was starting to take momentum with several study groups playing the game and brought good data that was actionable. This would have allowed to strongly help prioritisation for, at that time “allocation” and therefore help coordination.

* [[TSAG-C132](https://www.itu.int/md/T17-TSAG-C-0132/en)] *Hot Topics: Critical questions and proposal for a new format on both TSAG Hot Topics TD and LS out*
	+ In particular, the table 1 of this document lists a set of critical questions that would be worth re-examining, noting the previous study period never had the time to really review and act on the questions.

A.3 – First analysis on P3 “to examine and coordinate”

Assuming understanding of the 2 above sections has progressed, this section reviews the operative part itself:

A.3.1 – Examine

Examine implies that there is:

* a collection of the “new and emerging technologies” coming from various sources: Liaison Statements from internal and external ITU entities, CxO meeting in its current form (Res. 68), ad-hoc contributions,
* an identification of the “new and emerging technologies” in a repository of some form,
* a concerted qualification of the “new and emerging technology” with some form of qualification metadata,
* a validation of the “new and emerging technologies” vs the ITU and ITU-T mandates, no duplication principle with other SDOs,
* a relevance of the “new and emerging technologies” vs the ITU-T strategies, action plan and objectives as well as vs its entities existing or to be created,
* etc.

A.3.2 – Coordinate

Coordinate means that for a given “new and emerging technologies” under examination (assuming that the above examination took place), a consensus recommendation should be produced as to

* how it should be treated (inside ITU-T, outside ITU-T, outside ITU, in relationship with ITU, etc.),
* which entity shall treat it,
* if an entity is missing, then the (further) mechanism should recommend suggestions for its creation, mandate, ToR, leadership, etc.

This coordination operative aspect will necessarily have to deal with assignations, allocations and/or “dispatching”.

A.3.3 – Other considerations

Note: studying how other SDOs are handling “new and emerging technologies” could be helpful to this work.

From the above operative aspects, it is noted that the IETF is using the concept of ‘dispatching’ as formal working groups, including:

* a “general” dispatch working group for the whole of IETF: [gendispatch](https://datatracker.ietf.org/wg/gendispatch/about/),
* as specialised dispatch working group only for the security area: [secdispatch](https://datatracker.ietf.org/wg/secdispatch/about/).

Whilst every SDO has its own specificities, learning from others is certainly a good recommendation for this work to progress.

A.4 – First analysis on P2 “to be used at the SG and FG level”

Whilst the entities are very clear the term “to be used” will have to be clarified a lot.

Is it to be used for information? For comment? For action? And if for action which actions are to be expected?

It is imaginable that for the whole examination operative part, the implication is that a ‘mechanism’ would provide properly qualified data OR would ask the help of the entity to clarify those data while qualifying them.

It will be of course a different story regarding the coordination part as (and it already happened as observed for the creation of certain FG), certain recommendations will go against the initial will of an entity (an SG willing to have an FG attached to it when recommendation was to attach the FG to TSAG).

This calls for another issue which is the time dimension. Engaging with the SG and FG needs to respect certain cadences that would appear “random” during the year but as well potentially very spaced.

Coordinating implies a certain potential synchronisation between the various entities concerned and timing will not be simple to manage.

Again, the experiences of RG-SS in the previous study period could be very beneficial to this analysis the biggest learning is that the SG and FG are not set for collaboration but for competition which is certainly an issue directly linked to the bottom up gravitation nature of standardisation in general and ITU-T in particular.

A.5 – First analysis of P1 “establish an appropriate mechanism at TSAG level”

This piece of the ToR is probably the most difficult to address.

TSAG can use a diverse number of mechanisms sustained by potentially various types of entities.

Let’s remember that in the previous study period, TSAG discussed a contribution for an Architecture Advisory Board (AAB), which failed. But this failure helped understand a few things:

* the ITU-T strategy is unclear,
* the only direction of the work considered is bottom up,
* the SGs are in clear competition,
* creating an entity will face the problem of representativity,
* TSAG has no time to discuss the content of the “new and emerging technologies” during its meetings, showing in fact there was no proper time allocated to this action.

This non-exhaustive list above could form a set of “concerns” that could be broken down into:

* requirements: what TSAG members would like this mechanism to fulfil,
* limits: what TSAG members do not want this mechanism to fulfil,
* constraints what this mechanism cannot do because of internal and external other forces.
1. Research on a broad meaning for “new and emerging technologies”

The definition for “*new and emerging technologies*” (see all references in Annex C - Bibliography) was researched.

This doesn’t seem to be defined neither in the ITU Constitution nor in the ITU Convention, nor in any ITU PP Resolutions, nor in any ITU-T WTSA Resolutions, nor in the ITU Terms and Definition Database.

However, it is used **many times** and not only as “*new and emerging technologies*” but with many variations and nuances, or synonyms or even indirectly with sometimes the term “*new Question*” because it may be due to “*new and emerging technologies*”.

A non-systematic deeper analysis and research shows a number of interesting data points and forced to iteratively enlarge the research.

For example, searching the term “*emerging*” we could identify many variations of the form

*<qualifier> emerging <target>*

Examples of qualifiers:

* *new and emerging technologies*
* *evolving and emerging technologies*
* *major and emerging technologies*
* *future and evolving technologies*

and the target being extremely varied as *new and emerging …*

* *… telecommunication/ICT architectures, capabilities, technology, …*
* *… technologies, convergence (services and infrastructure) and new services, …*
* *… telecommunication environments, networks, …*
* *… multimedia services …*
* *… network technologies …*
* *… networks …*
* *… services …*
* *… areas …*
* *… digital technologies …*
* *… technical directions …*

Sometimes it is used with completely different terms such as

* *emergence of key technologies*
* *emerging new technologies*
* *advanced technologies*
* *future computing*
* *future networks*
* *other innovative technologies*
* *evolving needs*
* *new activities*
* *new requirements*
* *new applications in telecommunications/ICT services*
* *new strategies*
* *evolution of telecommunications/information and communications technologies*

Searching for these terms in a subset of the documentation (here only the updated Revisions in WTSA20) shows a number of data points:

Table 2 - Occurrences of “new and emerging” and any direct and indirect variations across ITU-T WTSA Resolutions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Res. #** | **# Occurrences** | **Preamble** | **Operative** | **Annex** | **Direct** | **Comments** |
| [Res. 1](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.1-2022-PDF-E.pdf) | 1 | N | Y | N | N | The only trace of “new and emerging” is indirect as per “*new Question*” in section 1 e) |
| [Res. 2](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.2-2022-PDF-E.pdf) | Many | Y | N | Y | Y | The multitude of variations on “new and emerging” appears so many times because Res. 2 includes the mandates of the Study Groups and they all have their specific language about it. |
| [Res. 7](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.7-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 11](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.11-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 18](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.18-2022-PDF-E.pdf) | 3 | N | Y | Y | N | Only indirect through “*new and existing work*” |
| [Res. 20](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.20-2022-PDF-E.pdf) | 3 | Y | Y | -- | Y |  |
| [Res. 22](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.22-2022-PDF-E.pdf) | 4 | Y | Y | -- | Y |  |
| [Res. 29](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.29-2022-PDF-E.pdf) | 1 | N | Y | -- | Y | This is the purpose of this resolution. Very specific to the area covered by SG2 |
| [Res. 31](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.31-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 32](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.32-2022-PDF-E.pdf) | 0  | -- | -- | -- | -- |  |
| [Res. 34](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.34-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 40](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.40-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 43](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.43-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 44](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.44-2022-PDF-E.pdf) | 4 | Y | Y | -- | Y | In support to the gap between developing and developed countries |
| [Res. 47](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.47-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 48](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.48-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 49](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.49-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 50](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.50-2022-PDF-E.pdf) | 3 | Y | Y | -- | Y |  |
| [Res. 52](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.52-2022-PDF-E.pdf) | 1 | Y | N | -- | Y |  |
| [Res. 54](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.54-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 55](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.55-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 58](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.58-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 60](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.60-2022-PDF-E.pdf) | 2 | Y | Y | -- | Y |  |
| [Res. 61](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.61-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 62](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.62-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 64](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.64-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 65](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.65-2022-PDF-E.pdf) | 2 | Y | Y | -- | Y |  |
| [Res. 67](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.67-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 68](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.68-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- | This is very strange to see no relation to new and emerging into Res. 68 |
| [Res. 69](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.69-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 70](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.70-2022-PDF-E.pdf) | 3 | Y | Y | -- | Yes | Accessibility directly impacted by new and emerging technologies |
| [Res. 72](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.72-2022-PDF-E.pdf) | 2 | N | Y | --- | Yes | Measurement directly impacted by new and emerging technologies |
| [Res. 73](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.73-2022-PDF-E.pdf) | 2 | Y | Y | -- | Yes |  |
| [Res. 74](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.74-2022-PDF-E.pdf) | 1 | Y | N | -- | Yes |  |
| [Res. 75](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.75-2022-PDF-E.pdf) | 1 | N | Y | -- | Yes |  |
| [Res. 76](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.76-2022-PDF-E.pdf) | 2 | Y | N | -- | Yes |  |
| [Res. 77](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.77-2022-PDF-E.pdf) | 2 | Y | Y | -- | Yes |  |
| [Res. 78](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.78-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 79](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.79-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- | Again, it sounds strange not to find anything in this Resolution |
| [Res. 80](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.80-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 83](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.83-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 84](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.84-2022-PDF-E.pdf) | 2 | Y | N | -- | Y |  |
| [Res. 86](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.86-2022-PDF-E.pdf) | 4 | Y | Y | -- | Y |  |
| [Res. 87](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.87-2022-PDF-E.pdf) | 1 | Y | N | -- | Y |  |
| [Res. 88](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.88-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 89](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.89-2022-PDF-E.pdf) | 4 | Y | Y | -- | Y |  |
| [Res. 90](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.90-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 91](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.91-2022-PDF-E.pdf) | 1 | Y | N | -- | Y |  |
| [Res. 92](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.92-2022-PDF-E.pdf) | 4 | Y | Y | -- | Y |  |
| [Res. 95](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.95-2022-PDF-E.pdf) | 2 | Y | Y | -- | Y | In terms of new strategies |
| [Res. 96](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.96-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 97](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.97-2022-PDF-E.pdf) | 1 | Y | N | -- | Y |  |
| [Res. 98](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.98-2022-PDF-E.pdf) | 1 | N | Y | -- | Y |  |
| [Res. 99](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.99-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |
| [Res. 100](https://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.100-2022-PDF-E.pdf) | 0 | -- | -- | -- | -- |  |

Out of the 55 revised Resolutions at WTSA20, 27refer directly with a few indirectly to “*new and emerging technologies*” or any of its variation which is nearly 50%.

In addition, 18 Resolutions mention it in their operative part, showing a significant interest, though showing too that this common theme is not addressed wholistically.

It would be interesting to extend this research to the other sectors and to the ITU Plenipotentiary. Perhaps a task that TSB can assist with.

1. Bibliography

The following documents were partially considered in this contribution:

[Editorial note: The URLs of the documents are provided for convenience to the author and the readers.]

[b-ITU Constitution] ITU Constitution – Constitution of the International Telecommunication Union.

<https://www.itu.int/council/pd/constitution.html>

[b-ITU Convention] ITU Convention – Constitution of the International Telecommunication Union.

<https://www.itu.int/council/pd/convention.html>

[b-ITU PP22 Final acts] ITU PP22 (Bucharest, 2022) – *Final acts of the plenipotentiary conference (Bucharest, 2022)*.

<https://www.itu.int/pub/S-CONF-ACTF-2022>

[b-ITU-T WTSA20 Resolution 22] ITU-T WTSA20 Resolution 20 (Geneva, 2022) – Authorization for the Telecommunication Standardisation Advisory Group to act between world telecommunication standardization assemblies.

<https://www.itu.int/pub/T-RES-T.22-2022>

[b-ITU Terms and References] ITU Terms and Reference database.

<https://www.itu.int/br_tsb_terms/#/>

Identification of documents in the former study period

[[TSAG-TD0764](https://www.itu.int/md/T17-TSAG-200210-TD-GEN-0764/en)] Hot Topics Repository

[[TSAG-C132](https://www.itu.int/md/T17-TSAG-C-0132/en)] Hot Topics: Critical questions and proposal for a new format on both TSAG Hot Topics TD and LS out

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. which requires colossal considerations in the next section about the analysis of P4. [↑](#footnote-ref-1)
2. call on WTSA20 Resolution 18 (Geneva, 2022) [↑](#footnote-ref-2)
3. call on WTSA20 Resolution 7 (Geneva, 2022) [↑](#footnote-ref-3)
4. This is a non-exhaustive list and not prioritized list, the contributor calls for challenges here from other members. [↑](#footnote-ref-4)
5. This is a non-exhaustive list and not prioritized list, the contributor calls for challenges here from other members. [↑](#footnote-ref-5)