

ICANN Strategic Outlook: FY23 Trends Report

ICANN Planning Department
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1 Summary of Findings and Recommendations

Tracking new and shifting trends affecting ICANN and the Internet is a critical first step in ICANN's strategic planning process. Each year, ICANN uses trend information to inform appropriate changes to the ICANN five-year strategic plan, operating plans (five-year or annual), and budget. This report provides a summary of ICANN's annual strategic outlook trend identification sessions with ICANN organization (org) and the community. It is intended to inform the Board, executive team, and relevant ICANN staff about shifts in trends that may affect their work, planning, and budget.

In 2021 in planning for fiscal year (FY) 2023, ICANN convened 16 strategic outlook sessions with 300 participants from the community, Board, and org, resulting in 1,114 data points collected. Trend session participants were asked to consider trends, risks, and opportunities across five focus areas: security, unique identifier systems, governance, geopolitics, and financials. It should be noted that the data collected is a point in time, influenced by people's perceptions and opinions, as provided by the participants in the trends sessions. Inclusion of those statements in this report is intended to reflect the data collected and is not intended as an endorsement.

Trend session data inputs received go through a thorough analysis including assessing the trends, risks, opportunities, and potential impacts on ICANN. The synthesis of this analysis is a set of proposed priority trends, related impacts, and associated strategic or tactical recommendations, summarized in the table below.

This paper also provides a description of the strategic outlook process and methods used to conduct the analysis, the results of those analyses, and appendices with more details on the trend inputs received.

SUMMARY OF TRENDS, IMPACTS AND CONCLUSIONS

On the basis of the analysis to-date, some adjustments to the Operating Plan have been identified (see table below), but the strategic objectives of the organization set forth in the current Strategic Plan for fiscal years 2021 to 2025 (FY21-25) do not need to change at this point.

Trends	Notable Shifts in Trend	New Impacts on ICANN / Impacts of Shifts from previous years	Conclusions
<p>On Security: Domain Name System (DNS) ecosystem security threats remain high and have the potential to erode the public trust in ICANN's ability to fulfill its mission.</p>	<p>Last year's overarching trends remain consistent. No notable shifts.</p>	<p>No new impacts.</p>	<p>No change to Strategic Plan. No change to Operating Plan. (Noting this remains a critical trend, with high materiality, and current plans provide adequate response as is).</p>
<p>On Security: While discussions are continuing within the community over what constitutes "DNS abuse", ICANN is serving its role within its mission and looking for other opportunities to cooperate to address the broader matter of nefarious use of the DNS. ICANN continues to contribute technical knowledge and input to other parties that are developing solutions.</p>	<p>Last year's overarching trends remain consistent. There is a trend of solutions to address DNS abuse getting developed by parties other than ICANN (such as the Abuse Framework or the Abuse Institute).</p>	<p>The risk to the Internet's trustworthiness persists, and its impact on ICANN's ability to act. Perception remains that ICANN should be doing more to address DNS abuse.</p>	<p>No change to Strategic Plan. Efforts are already underway in FY22 to communicate both what ICANN can do as part of its mission and what it is doing on DNS abuse to address the perception that ICANN is not doing enough in addressing DNS abuse (for example: webinar of July 2021). Continued efforts included in FY23 Draft Operating Plan.</p>
<p>On Geopolitics: Efforts to regulate or legislate the Internet continue to intensify, by some national governments and regional governmental bodies, as well as some global intergovernmental organizations, using legislation, policy initiatives, standards proposals and other types of initiatives.</p>	<p>The increasing importance of the Internet is causing some governments, sometimes under the rationale of digital sovereignty, to seek to increase their level of control of the Internet, including by challenging ICANN in its role as steward of the DNS.</p>	<p>There is a threat to the interoperability and openness of the Internet. There is a potential increased threat to ICANN's ability to perform its technical mission and to the ICANN community's ability to create policy using the multistakeholder model.</p>	<p>No change to Strategic Plan. Considered in FY23 Draft Operating Plan: Opportunity to increase educational and engagement efforts with relevant governments, standards bodies and intergovernmental organizations in order to increase collaboration and minimize the potential risk of over-regulation and its unintended consequences touching on ICANN's mission.</p>
<p>On Unique Identifier Systems: As the diversity of online participants grows, pressure to address universal acceptance issues is increasing, to support a multilingual Internet.</p>	<p>Interest in Internationalized Domain Names (IDNs) and Universal Acceptance (UA) continues to increase.</p>	<p>Failure to address UA issues could negatively affect the ability for a broader and more diverse global user base to access the Internet.</p>	<p>No change to Strategic Plan. No change to Operating Plan. The New gTLD Subsequent Procedures Operational Design Phase (ODP) will have a specific section on Universal Acceptance.</p>

Trends	Notable Shifts in Trend	New Impacts on ICANN / Impacts of Shifts from previous years	Conclusions
<p>On Unique Identifier Systems: The continued evolution of emerging identifier technologies – at times promoted by governments – requires ICANN to be responsive to these changes and ensure that the unique identifier systems evolve and continue to serve the global Internet user base.</p>	<p>Some governments are now talking about new emerging identifier technologies, for example in promoting the “New Internet Protocol (IP)”.</p>	<p>Impact of the shift on ICANN is minimal.</p>	<p>No change to Strategic Plan. No change to Operating Plan. On-going monitoring/early warning and analysis by the Office of the Chief Technology Officer.</p>
<p>On Governance: The prolonged virtual setting and an uneven return to a pre-pandemic participation environment are testing the ability of ICANN’s multistakeholder model (MSM) to support efficient and effective engagement and decision-making.</p>	<p>The virtual setting resulting from COVID-19 pandemic has exacerbated the perennial challenges of engagement and participation in ICANN’s MSM. There is a sense of urgency about the need to address these challenges in prolonged virtual settings.</p>	<p>Reduced participant diversity could threaten the legitimacy of the MSM.</p>	<p>No change to Strategic Plan. Efforts are already underway in FY22: an internal review of lessons learned from engagement during the pandemic is underway, to collect information and determine adequate ways for future community engagement in the current setting. Continued efforts included in FY23 Draft Operating Plan.</p>
<p>On Governance: While there is a continued necessity to fulfill transparency, accountability, inclusiveness, and openness obligations, the prolonged virtual setting is exacerbating the challenges of attracting and onboarding newcomers.</p>	<p>Last year’s overarching trends remain consistent; but there is a sense of urgency to address how to attract and onboard newcomers in a virtual setting.</p>	<p>Risk of drop-off of new volunteers. Risk that participants in ICANN’s multistakeholder processes do not reflect the evolution of the broader Internet user base.</p>	<p>No change to Strategic Plan. Considered in FY23 Draft Operating Plan: Opportunity to explore the possibility and concept of new and enhanced virtual programs and identify potential improvements for the Newcomer program.</p>
<p>On Governance: Heightened awareness of ICANN, coupled with a lack of understanding about its role, threatens legitimacy and public trust in ICANN and increases the need to communicate broadly on ICANN’s role.</p>	<p>No notable shift.</p>	<p>No new impacts.</p>	<p>No change to Strategic Plan. No change to Operating Plan. On-going efforts to increase public awareness and understanding of ICANN’s role in the Internet ecosystem.</p>

Trends	Notable Shifts in Trend	New Impacts on ICANN / Impacts of Shifts from previous years	Conclusions
On Financials: The continued consolidation of the DNS marketplace and the perceived lack of interest in the expansion of the gTLD name space, added to the rapid increase of Internet users shifting to relying on online platforms and the uncertainty of the current global economic climate may impact ICANN's long-term funding.	Internet users rapidly change their preferences to relying on online platforms rather than domain names.	Impact on ICANN's financials is minimal.	No change to Strategic Plan. No change to Operating Plan. On-going monitoring of industry trends; Operating initiative to improve understanding of the long-term Domain Name market drivers.
On Financials: Prioritization is becoming more critical to continue supporting the needs and demands of ICANN's global community.	Last year's overarching trends remain consistent.	No new impacts.	No change to Strategic Plan. No change to Operating Plan. Operating initiative: Planning at ICANN.
New trend: Some existing concerns are vocalized more loudly relative to the New gTLD Subsequent Procedures, as ICANN gets closer to implementation.	New trend.	Implications in terms of workload and resources, as well as the ability to fund the program.	No change to Strategic Plan. No change to Operating Plan. Efforts are already underway in FY22 to launch a New gTLD Subsequent Procedures Operational Design Phase (ODP).

2 Process & Methodology

The strategic outlook trend identification is an annual process, which ensures ICANN has a consistent way to:

- Identify and track trends.
- Prepare for opportunities.
- Mitigate or avoid challenges.
- Inform strategic and operational planning and prioritization.

It is a joint effort between the organization, the community, and the ICANN Board to engage on emerging or evolving trends that affect ICANN. Trends indicate general directions in which things are developing or changing, that have or could have an impact on ICANN, its mission, its operations, or its ecosystem. Trends can be internal or external, organization-

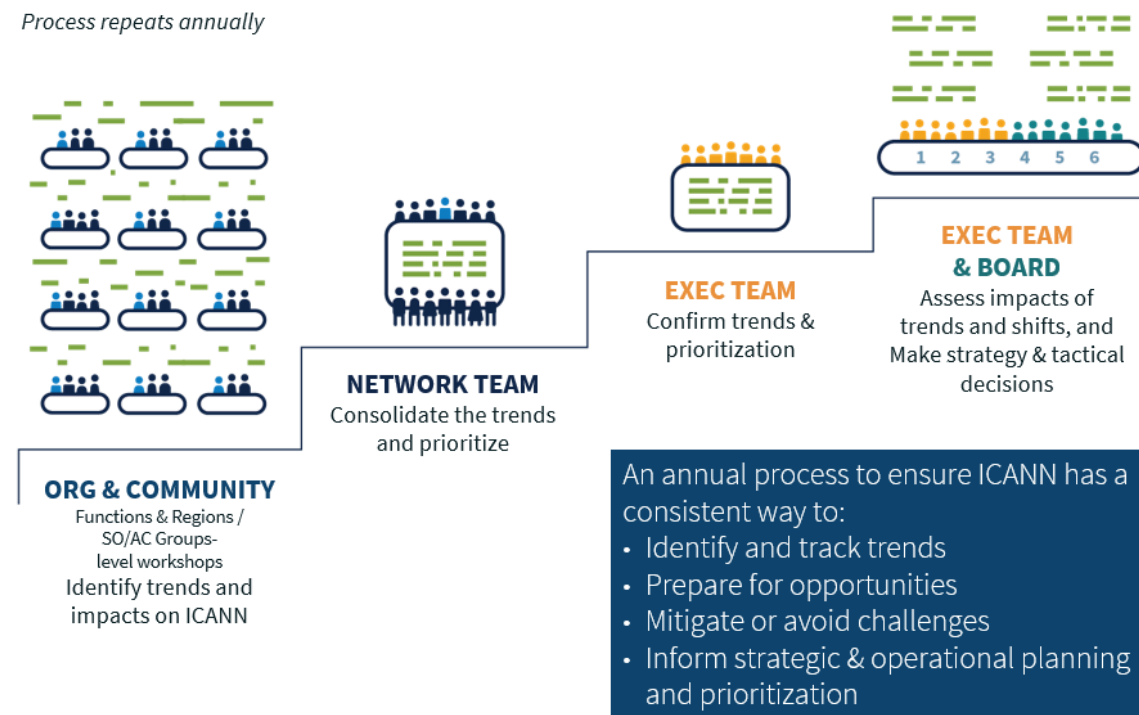
specific, community-related, or go beyond ICANN's ecosystem as ICANN does not operate in a vacuum.

The organization has found the exercise to be beneficial to help surface opportunities and challenges that lay ahead, inform planning, help with prioritization considerations, and risk management.

As a first step in the [strategic planning process](#), the community, ICANN Board, and ICANN org participate each year in strategic outlook trend identification sessions to discuss emerging trends that could affect ICANN. The trend identification process repeats annually to help inform ICANN's strategy in an ever-changing environment.

Strategic Outlook Process:

Process repeats annually



The ICANN Bylaws ([Section 22.5](#)) mandate ICANN to develop a five-year strategic plan, a five-year operating plan, and an annual operating plan. Every year, new trends or shifts in existing trends related to the operating plans (five-year or annual), the budget, or both are factored into the annual iteration of those plans, as appropriate.

2.1 Description of the Trends Identification Sessions

Trend identification session participants from Board, ICANN org, and the community are divided into subgroups and engaged in a brainstorming exercise to identify and track the evolution of trends that may affect ICANN; and evaluate the impacts that these trends pose to ICANN, either in terms of threats or in terms of opportunities. Subgroups share their ideas with the larger group, and additional discussions follow. At the end of the session, each participant is invited to vote for top three priorities that ICANN should be focusing on.

This year, the sessions were structured around the five areas of focus of ICANN's Strategic Plan for fiscal years 2021 to 2025:

-
- **Security** – Relating to cybersecurity, Internet of Things (IoT) vulnerabilities, Domain Name System (DNS) security, root service reliability, resilience, interoperability, and DNS abuse.
 - **ICANN's Governance** – Referring to ICANN's governance rather than Internet governance in general, ICANN's multistakeholder model of governance, efficiency and effectiveness, transparency and accountability, inclusiveness, and openness.
 - **Unique Identifier Systems** – Evolution of the unique identifier systems in the context of the development of their uses and their user base, considering external technology advancement (such as blockchain, IoT, rise of artificial intelligence, etc.), alternate roots, alternative infrastructures, Universal Acceptance, and Internationalized Domain Names (IDNs).
 - **Geopolitics** – Including the effects of legislation and regulation on ICANN, as well as other globalization topics such as the global reliance on the Internet, or Internet fragmentation.
 - **Financials** – Including financial sustainability, financial responsiveness to changing industry economics, funding strategies, and cost management.

Each session was initiated by reviewing previous year's trends with participants. Then, questions were asked about the relevance of last year's trend, any notable shifts, or new trends to consider as well as the impacts, opportunities, and priorities arising from those trends.

2.2 Trend Identification Sessions & Data Computation

Between February and April 2021, 300 participants (34% community, 6% Board, 60% org) participated in 16 trend identification sessions collecting 1,114 data elements. Due to the global pandemic, all sessions were held remotely, and used Zoom breakout rooms and a Jamboard virtual whiteboarding solution to engage participants.

Following each session, results were summarized and shared with those participants to gather final feedback before aggregating all results for further analysis. Inputs were also catalogued in a central repository by several criteria:

- **Focus area** of the data element: *Financials* (and domain name industry trends), *Geopolitics*, *ICANN's Governance*, *Security*, or *Unique Identifier Systems*.
- **Data qualification**: Data points were qualified as a trend, a risk, or an opportunity.
- **Number of votes** received: During each session, participants were asked to vote for what they thought ICANN should consider to be top priorities.
- **Topic**: The core issue primarily discussed in the statement. Our catalog currently contains about 40 topics. Each year, new topics are introduced based on the inputs received while some previous topics are no longer relevant.
- **Overarching trend** connected to the data element. Overarching trends are identified through consolidation and summarization of similar or related trend statements. Each year, overarching trends are added, removed, or revised to reflect the evolutions observed.

In some cases, the previous year's overarching trend was no longer applicable and was retired; in other cases, data indicated a new overarching trend was needed to reflect an emerging trend.

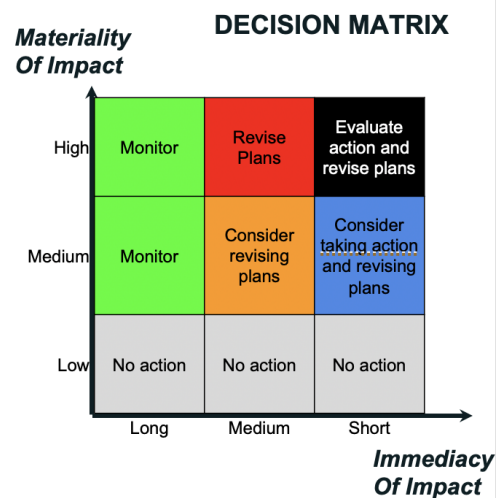
2.3 Trend Analysis

To analyze the trends, ICANN org formed a liaison network bringing together different subject matter experts from across the organization. For each focus area, the liaisons assessed trends, risks, and opportunities identified through the trend sessions and shared their observations. This analysis resulted in the identification of new trends and notable shifts in previously identified trends and their impacts on ICANN. The analysis is appended to this paper.

2.4 Trend Impact Assessment

The following methodology was followed to conduct the assessment:

1. Evaluation and determination of the **materiality** and the **immediacy** of the impacts of the new and notable shifts in existing trends identified in the trend analysis. (completed by org)
2. Preliminary, systematic impact assessment using a materiality/immediacy decision matrix. (completed by org)



3. Decision of strategic or tactical opportunities:
 - a. Strategic assessment results in recommendation to evolve strategic plan (subject to BSPC recommendation).
 - b. Tactical assessment results in recommendation to take short-term (current fiscal year plan) actions and/or to consider in next fiscal year operating plan (org considers and updates OP)

2.5 Conclusion and Actions Taken

On the basis of the work accomplished by the Board Strategic Planning Committee (BSPC) as supported by ICANN org, and after careful consideration of the inputs received from the community and the organization through the strategic outlook trends identification process, the BSPC recommended keeping the ICANN Strategic Plan for fiscal years 2021 to 2025 unchanged.

The BSPC recognized that there may be future needs to evolve the FY21-25 Strategic Plan, such as to address funding realities identified through the update of ICANN's five-year Operating and Financial Plan, or mid-course modifications during the life of the Strategic Plan.

On 28 October 2021, the ICANN Board resolved that the ICANN Strategic Plan for Fiscal Years 2021 to 2025 as approved on 23 June 2019 shall remain in force and unchanged, with no restatement of the Strategic Plan needed at this time

Once approved by the ICANN Board, findings on trends and their impacts on ICANN, as well as opportunities they represent and resulting proposed planned activities, were documented for consideration in the next Draft ICANN Operating Plan.

The FY23 trends will serve as reference for the next iteration of the strategic outlook trends identification process, which will start early 2022 at the latest.

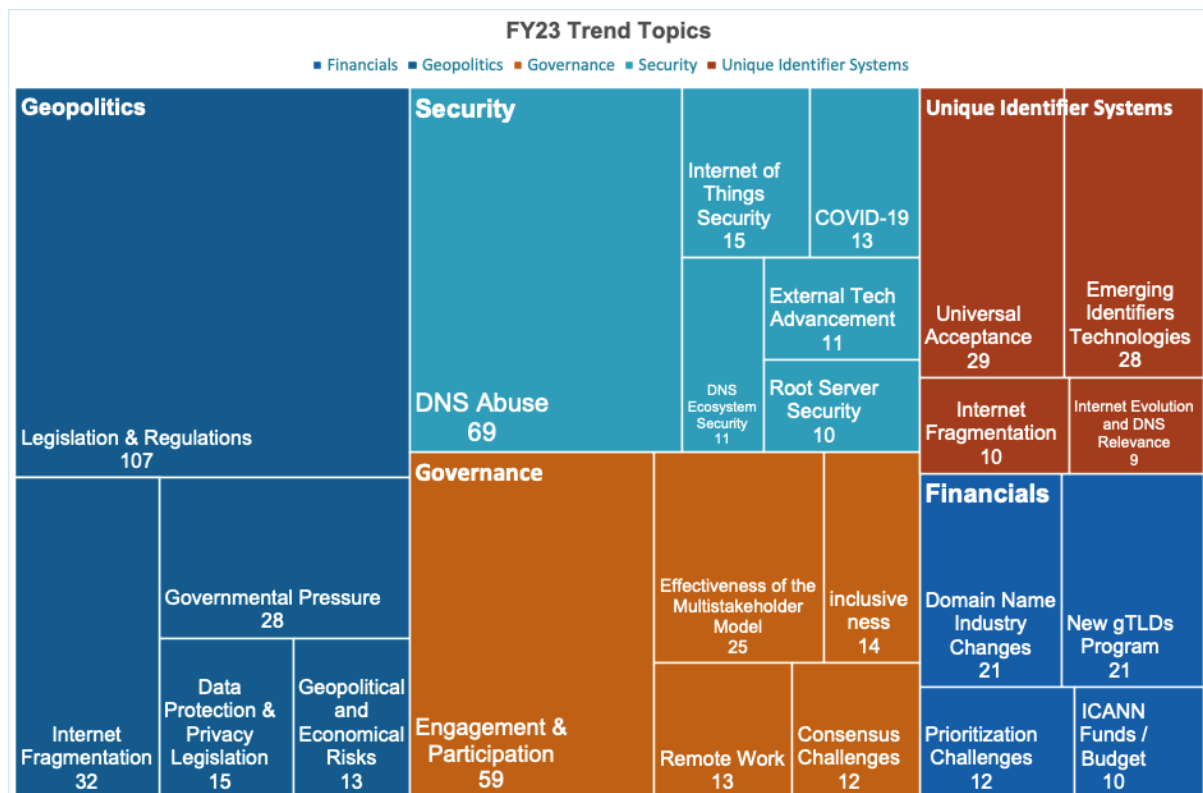
3 Appendices

Appendix A | Statistical Analysis

FY23 Trend Topics

The FY23 Trend Topics chart (**Figure 1**) provides an analysis of the inputs that reflects the level of attention these topics received in 2021. Topics are first organized by focus area (e.g., 'Governance') and then by topic (e.g., 'Engagement & Participation').

Figure 1. FY23 Trend Topics



In 2021, the focus areas of **Geopolitics** received the greatest volume of priority vote, followed by *Security and Governance*.

To illustrate how the top 20 trend topics of 2021 compare to 2020, **Figure 2** below shows a comparison ranked by number of votes per topic. The *Number of Votes* column indicates the number of priority votes received related to that topic in a given year.

The chart uses a heat map in the final column of the chart to compare the ranked position of the top 20 trend topics in 2021 (FY23) to the ranked position of the same topics in 2020 (FY22). This heat map shows which topics had the greatest movement between these two

years. The green fields highlight which topics saw the greatest increase in emphasis and the red fields show the topics that have fallen in importance.

Figure 2. Top 20 Topics in FY23 in Comparison to FY22

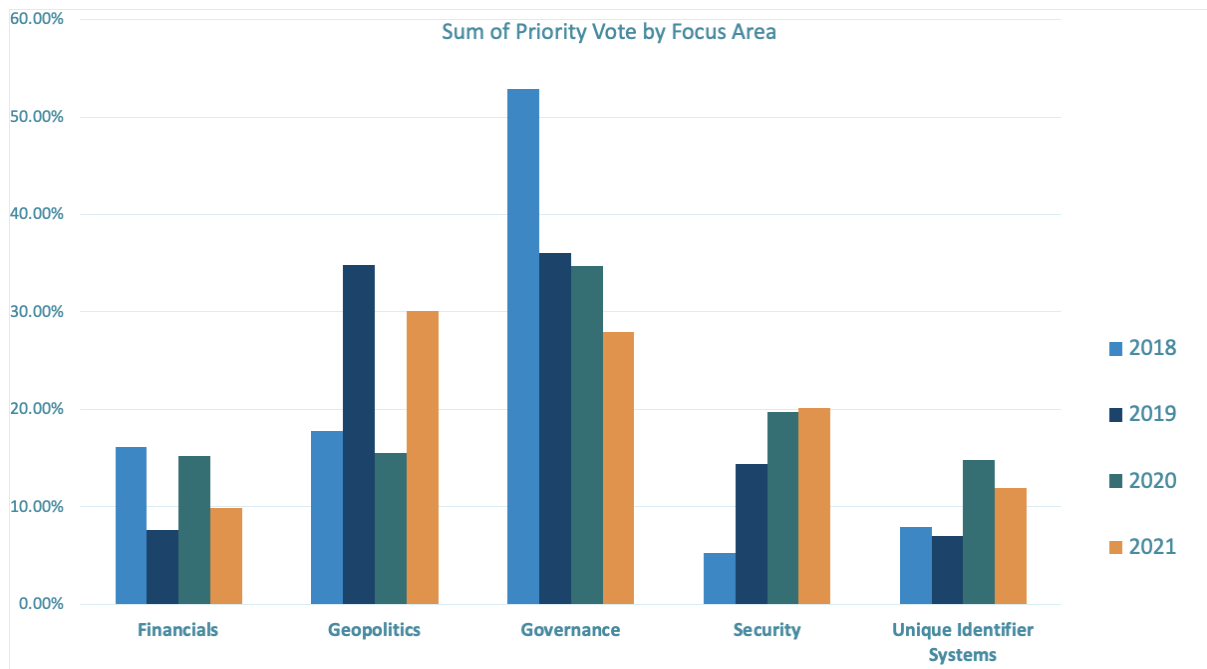
FY23 Top-20 Topics	# of Statements	# of Votes	FY23 position	FY22 position	Heat Map
Legislation & Regulations	64	107	1	16	15
Remote Work	32	69	2	n/a	new
DNS Abuse	39	69	3	4	1
Engagement & Participation	47	59	4	10	6
Internet Fragmentation	28	42	5	23	18
Governmental Pressure	12	31	6	26	20
New gTLDs Program	21	30	7	8	1
COVID-19	22	29	8	20	12
Universal Acceptance	28	29	9	6	-3
Emerging Identifiers Technologies	28	28	10	30	20
Effectiveness of the Multistakeholder Model	25	25	11	2	-9
Prioritization Challenges	18	22	12	36	24
Domain Name Industry Changes	37	21	13	18	5
Talent Acquisition & Retention	6	19	14	11	-3
Workload and Pressure on Staff	10	17	15	34	19
Data Protection & Privacy Legislation	12	15	16	12	-4
Internet of Things Security	10	15	17	48	31
Geopolitical and Economical Risks	9	15	18	17	-1
inclusiveness	8	14	19	35	16
External Tech Advancement	7	13	20	3	-17

In 2021, the topics *Legislation and Regulation*, *Remote Working* and *DNS Abuse* received the most votes. The topics: *Internet of Things Security*, *Prioritization Challenges*, *Emerging Identifiers Technologies*, and *Governmental Pressure* received the highest increase in priority votes year-over-year, while the topics *External Tech Advancement* and *Effectiveness of the Multistakeholder Model* showed the greatest drop in votes as compared to 2020.

Evolution of Trend Focus Areas Over Time

Figure 3 below provides an overview of how focus areas have evolved since 2018, based on the number of votes for each focus area.

Figure 3: Focus Area Evolution

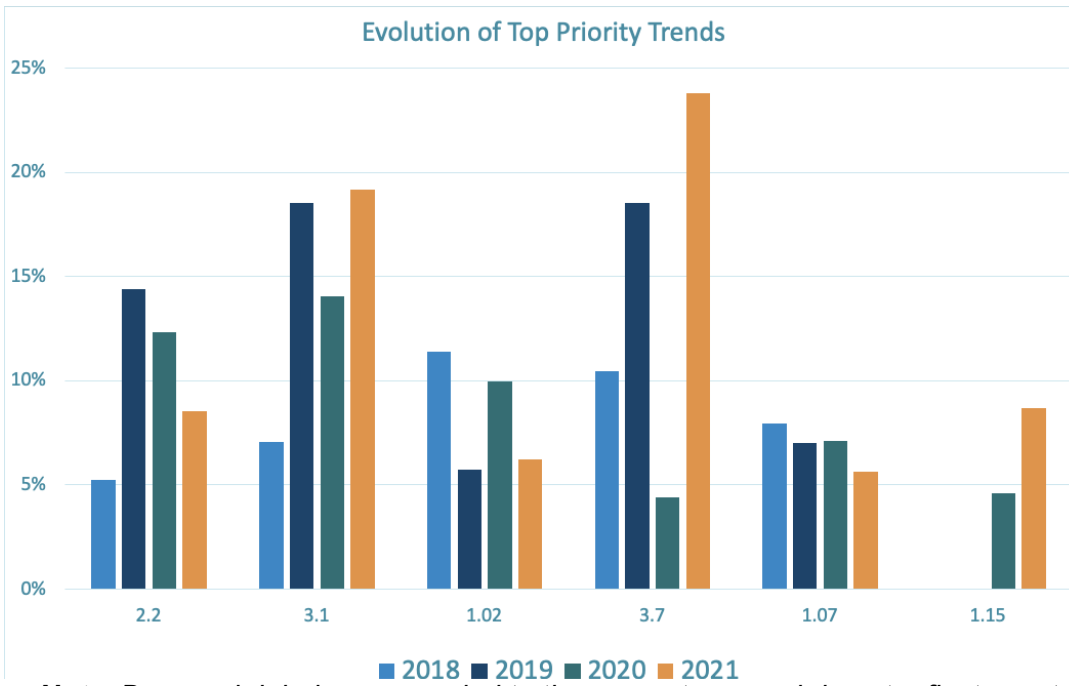


Over the years, the area of governance has been losing votes to the focus areas of security and geopolitics, showing a notable shift of interest from internal trends towards external trends. Financials and Unique Identifier Systems have remained mostly stable.

Evolution of Top Priority Trends Over Time

Figure 4 below illustrates the trends that received the most votes in FY23, compared to their priority (based on vote count) in the previous three years. It is calculated based on the ratio of the number of votes for each trend over the total number of votes for a given year.

Figure 4: Evolution of Top Six Priority Trends



Note: Bar graph labels are rounded to the nearest one and do not reflect exact values.

Fig. 4 Horizontal axis: Top Priority Trends (left to right)	Noteworthy evolution of the trend
2.2: Trend relating to DNS ecosystem security	Trending down: focus is shifting towards DNS abuse (trend 1.15). The two trends combined continue to increase.
3.1: Trend relating to ICANN's multistakeholder model	Steady and remains top priority
1.02: Trend relating to Domain Name industry changes & impacts on funding	Variable priority over years
3.7: Trend relating to legislation & regulations	Significant variability in priority; ranked top priority this year
1.07: Trend relating to the emerging identifiers technologies	Sustained priority over years
1.15: Trend relating to DNS Abuse	Newer trend introduced in 2020, showing significant increase this year

Appendix B | Focus Area Trend Analysis

Purpose of Document

The purpose of the Trend Analysis is to summarize the results of this year's trend identification sessions and, where possible, to:

- Provide additional observations noted by the Strategic Outlook Network.¹
- Identify noticeable shifts in trends or new trends that may be worth highlighting.

This document was prepared by the Planning team in collaboration with the Strategic Outlook Network liaisons. It was intended for the Executive team, the Board Strategic Planning Committee, and the entire ICANN Board as input into the next step of the strategic planning process.

Please note: One of the roles of the Strategic Outlook Network liaisons was to review trend statements, risks, opportunities, and address significant inaccuracies or areas that required further elaboration to clarify the point. In some cases, these statements represent perceptions from participants in the trends sessions. Inclusion of those statements is intended to reflect the data collected and is **not intended as an endorsement**. In cases where the Strategic Outlook Network had a different opinion or felt that a trend, risk, or opportunity statement represented a perception rather than a fact, it is explicitly indicated as such. These instances are elaborated in each Focus Area section titled "**Additional Observations from ICANN Org's Strategic Outlook Network**". In some cases, words or phrases are in quotations as a reflection of what was heard in the trend sessions but to clarify that these are not necessarily well defined or agreed upon. For example, the phrase '*DNS Abuse*' was frequently mentioned in the trend sessions but this phrase has a different meaning across various stakeholder groups.

B.1 Security Trends

Summary of Trend Elements Collected During the Trend Sessions

- Related to Trend 2.2 on DNS ecosystem security threats:
DNS ecosystem security threats remain high. IoT continues to be cited as a major source of vulnerability, especially with 5G adoption forcing more security protocols. Remote work was also cited as an additional source of vulnerability. New applications and technologies will keep coming, bringing along security concerns. Examples cited include post-quantum cryptography in Domain Name System Security Extensions (DNSSEC), and the decentralizing of the root zone. More changes in DNS (DoH,² DoT,³ etc.) and the bifurcation of DNS into the applications instead of the operating system stubs may introduce additional unforeseen security problems.

¹ The Strategic Outlook Network is a cross-functional and cross-regional team of ICANN staff, who act as liaisons for the strategic outlook-related work in their respective function or region. The liaisons provide subject matter expertise and share their observations around key findings in order to provide context and flag any key issues that need to be taken into consideration in the formulation of recommendations.

² DoH: DNS over Hypertext Transfer Protocol (HTTP)

³ DoT: DNS over Transport Layer Security (TLS)

Suggested opportunities included continuing to promote DNSSEC as a single secure trust anchor, bringing IoT back up for discussion within the community to be proactive, and promoting IoT security best practices.

- Related to Trend 1.15 on DNS abuse:
'DNS abuse' is currently a high priority topic. The community continues to request ICANN to address 'DNS abuse,' including through numerous review team recommendations, and through increased governmental pressure. Discussions on a definition of DNS abuse and ICANN's role continue, but no consensus has been reached. There is a limited awareness of ICANN's efforts towards DNS security threat mitigation, but a broader perception remains that ICANN should be doing more to address DNS abuse.

Suggested opportunities to address DNS abuse include: industry self-regulation initiatives (such as the Abuse Framework or the Abuse Institute), technical research and tools (such as Domain Abuse Activity Reporting (DAAR), or Domain Name Security Threat Information Collection and Reporting (DNSTICR), and policy (to fill gaps). Another recommendation was for ICANN to facilitate collaboration (e.g., Trusted Notifiers,⁴ or the Security and Stability Advisory Committee's Common Abuse Response Facilitator⁵) and promote best practices to remediate various types of DNS abuse.

Additional Observations from ICANN Org's Strategic Outlook Network

- DNS ecosystem security threats cover a broad range of issues, and not all of them are within ICANN's mission. ICANN has a role in mitigating some of these threats and abuses, ICANN can influence some others, and others are out of ICANN's remit. The vast majority of people still do not understand ICANN's role, which continues to threaten its reputation.
- ICANN org's efforts towards addressing DNS security may not have been widely visible to community stakeholders, with the risk for ICANN to be perceived as moving too slowly or not being relevant. There is an opportunity for ICANN to better communicate what it is doing and temper the level of concern over ICANN's perceived lack of an active role in addressing DNS abuse. ICANN should consider focusing its public narrative on DNS abuse on all the efforts the org is putting forward in addressing this issue.

⁴ Trusted Notifiers are defined in the [DNS Abuse Framework](#) as subject matter experts to monitor and help address some of the categories of Website Content Abuse, or other sorts of abuse that may fall under an organization's policies.

⁵ See [SAC 115](#): SSAC Report on an Interoperable Approach to Addressing Abuse Handling in the DNS

B.2 Unique Identifier Systems Trends

Summary of Trend Elements collected during the Trend Sessions

- Related to Trend 1.07 on the evolution of emerging identifier technologies:

Among emerging identifier technologies, blockchain is increasing in use and popularity, with applications including blockchain top-level domains (TLDs) (e.g. namecoin, ens, handshake). The blockchain technology and its fully decentralized model could be a considerable evolution for the DNS, as the DNS is currently based on a centralized model of trust.

Other technologies like DoH and DoT were also cited as having the potential to result in alternate roots based on the centralization of resolvers (fewer public DNS providers than Internet service providers).

As public awareness of alternate roots continues to increase, so does the perception of a possible threat to the relevance of the DNS, to ICANN's legitimacy, and to the future of a single, interoperable Internet. Name collision and user confusion are other risks associated with this trend.

The opportunities cited suggested that ICANN adapt to some changes that are already here and collaborate with emerging players to keep a single system, which meets community needs rather than split the Internet in two or more systems.

Another recurring theme that prevailed this year related to the continued growth in popularity of online platforms, such as WeChat, Tencent, Facebook, and domain names that are becoming a secondary means of accessing the Internet. The acceleration in the global trend of the digital transformation has resulted in more users connecting to the Internet, but the growth of domain names did not proportionally follow that trend, raising questions about the relevance of the DNS.

- Related to Trend 1.13 on Internationalized Domain Names (IDNs) and Universal Acceptance (UA):

Interest in IDNs and in UA to support a multilingual Internet continues to increase, especially in developing markets, as more people are online more frequently and rely more heavily on the Internet – a trend accelerated by the COVID-19 pandemic and the associated measures of working remotely.

Adoption trends appear to vary by region. See the section below, titled, “Additional Observations from ICANN Org’s Strategic Outlook Network” for more information.

ICANN and other relevant parties’ efforts to facilitate the implementation of IDNs, including IDN variant management-related policy development activities, as well as improvements to the IDN tables for security or stability purposes were noted, though some participants thought that these actions remained unstructured and weak at times.

The pressure to address UA issues is increasing, as an essential factor for a successful next round of gTLDs. Failure to address UA issues could negatively affect the ability for a broader and more diverse global user base to access the Internet.

Opportunities identified included continuing outreach and promotion efforts towards greater adoption of IDNs, as well as developing broader and more structured actions to address UA.

Additional Observations from ICANN Org’s Strategic Outlook Network

- Related to emerging identifiers technologies:

Alternate root systems have existed since before ICANN existed. They evolve as new technologies arise and are an ongoing trend, which is not noticeably evolving. Emerging identifier technologies are still using IP addresses and domain names, the number of DNS registrations continues to increase, and the risk of DNS obsolescence appears more based on perception rather than data. Emerging identifier technologies should be seen as opportunities to evolve the Internet’s systems of unique identifier, not as a threat to its existence.

These new technologies do present some level of risks for the interoperability and openness of the Internet. For example, by putting the resolution at the application level, DoH increases the risk of Internet fragmentation, as the application can choose how to serve the user.

Local root distribution – also known as *hyperlocal* – is another emerging technology that has big upsides but also potential downsides. It is being monitored by ICANN org’s Office of the Chief Technology Officer (OCTO).

- Related to Internet evolution and DNS relevance:

The growing popularity of the online marketplace and Internet platforms reflects an evolution of the way the domain names are being used, with domain names being less visible or less noticeable, but still being used in the background (for example, advertising-driven domain names). The ratio of connected devices to people keeps increasing, and all of these devices are still using the unique identifier systems. There are many new creative ways to connect online users, such as Clubhouse,⁶ and new ways to use domain names, such as action-based *.new* links, or *.bank*’s “Stamp of Trust.”⁷ These evolutions do not constitute a threat to the relevance of the DNS.

- Related to UA and IDNs:

The recent [ICANN IDN report](#) shows declining trends for most scripts (see Second-Level IDN Registrations Under All gTLDs, Table 1, Page 6). IDN registrations at the second level in gTLDs have been decreasing for almost all scripts for the last two years. The number peaked between 2017-2018, then from 2019 it has been decreasing for almost all scripts. A comparison of data between December 2015 and 2020 shows a 22% decrease overall. It is important to note that country code top-level domains (ccTLDs) are not included in this picture, as ICANN does not collect data from ccTLDs.

⁶ Clubhouse is an audio-based social media app. The company describes itself as “a new type of social product based on voice [that] allows people everywhere to talk, tell stories, develop ideas, deepen friendships, and meet interesting new people around the world.”

⁷ The *.bank* domain, gated exclusively for banks, prevents lookalike domains making it easy for anyone to immediately identify bank emails and websites versus Business Email Compromise (BEC), phishing, or spoofing attacks.

It is also important to underscore that ICANN org itself cannot address UA issues, and only can educate and provide resources. Companies that own platforms and technologies need to actually do the work.

B.3 Geopolitics Trends

Summary of Trend Elements Collected During the Trend Sessions

- Related to Trend 3.7 on Legislation and Regulations:

The trend towards an increase in national and regional initiatives to regulate or legislate aspects of the Internet continues and is expected to intensify in the future, especially as more intergovernmental organizations (IGOs) develop an interest in engaging with ICANN and ICANN's mission.

The behaviors observed are perceived as becoming more intense. Some nation-states are perceived as becoming increasingly concerned about Internet security issues. More countries intend to implement, or have been implementing technologies that allegedly protect their citizens and combat cybercrime. Some of these measures could reduce or adversely affect Internet access at times.

Several proposed broad legislative initiatives, primarily coming out of the European Commission (EC), could substantially impact many stakeholders and service providers of the DNS arena, including ICANN as a root server operator. The impact could be as major as that caused by the European Union's General Data Protection Regulation (GDPR). For example:

- The DNS is mentioned and included in the scope of the Digital Services Act (DSA). For example, intermediary services such as Internet service providers and DNS service providers as well as hosting services are covered under the DSA, though it is not clear at this stage how the legislation will apply to the DNS and DNS services.
- The Digital Markets Act (DMA) could affect some members of the ICANN community as it focuses on regulating the market power of large Internet platforms.
- The Network and Information Security Directive 2 (NIS2) also includes DNS services within its scope.
- The Cybercrime Convention Committee (T-CY) is preparing a [2nd additional protocol to the Budapest Convention on Cybercrime](#).

There appears to be increasing frustration among governments due to a perception that ICANN and the domain name industry are not doing enough to resolve ongoing Internet-related concerns around data protection, privacy, or security, among others. The trend of *digital sovereignty* is also increasing (see observations from ICANN org's Strategic Outlook Network below). In addition, a few governments have expressed views that demonstrate decreasing confidence in the multistakeholder model of governance (see ICANN's [Government Engagement Publication of April 2021](#)). At the United Nations (U.N.), some nation-states are attempting to bring ICANN's work under the U.N. umbrella through the International Telecommunications Union (ITU) or proposing treaties that have the potential to impact ICANN's mission. For example, the U.N. Ad Hoc Committee is drafting a new U.N. cybercrime convention. There are ongoing cybersecurity deliberations at the U.N. General Assembly (UNGA), as well as ITU Council Working Group's proposals to discuss

issues which touch on ICANN's mission. The U.N. Secretary-General's [Roadmap for Digital Cooperation](#) has the potential to shift the discussions at the Internet Governance Forum (IGF) with a greater stress on multilateral rather than multistakeholder cooperation. Changes in the IGF will be discussed at the twentieth anniversary of the World Summit on the Information Society (WSIS+20) UNGA deliberations in 2025.

Some of the same risks were identified and remain the same as in previous years. These include, among others, challenges to the single Internet, its openness and interoperability, as well as potential increased threats to ICANN's ability to perform its technical mission and the ICANN community's ability to create policy using the multistakeholder model.

Opportunities identified by participants included:

- Effective anti-abuse contracts and policies, coupled with increased engagement with law enforcement and appropriate engagement with governments, could lead to the realization that conflicting laws may not be required.
- Greater collaboration with the ITU to promote global cooperation and minimize the risk of over-regulation.
- Providing quality information about the risks to regulating the DNS and proposing alternatives for governments and diplomats at the U.N. to consider.
- Other Geopolitical Trends:
A few other trends were brought up and voted as priorities during the sessions:
 - Freedom of speech is being endangered as single entities (business or nation-states) have the power to silence certain voices.
 - There is a growing antitrust focus on major technology firms in Europe and the United States.
 - Energy consumption and associated carbon emissions of the Internet are growing, greatly accelerated by blockchain operations.

Additional Observations from ICANN Org's Strategic Outlook Network

- Over the past year, ICANN has intensified its efforts to inform the community about legislative and regulatory initiatives. The high scores of the legislation and regulation topic in the statistical analysis confirms that those briefings have heightened awareness of the topic. While this may be viewed as a positive and intended outcome, ICANN's efforts are not the sole reason for this result – it also reflects an actual increase in legislation and regulation activity by governments and IGOs.
- It is important to distinguish two distinct forms of digital sovereignty: the first form, where some regulatory regimes are asserting or have already implemented unilateral Internet capabilities, has the potential for Internet fragmentation. The second form of digital sovereignty is demonstrated by the growing political interest and push for data localization, more countries wanting their "own" Internet infrastructure (e.g., root server instances). Europe, for example, is working on a proposal to promote DNS diversification and set up a "DNS4EU." Saudi Arabia recently asked ICANN for their "own" root server. ICANN's root server strategy is aligned with this trend, in looking to multiply instances of ICANN Managed Root Servers (IMRS) in diverse locations.

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- With the acceleration of the digital transformation (largely due to the COVID-19 pandemic), Internet and Internet-based services are increasingly perceived as essential utilities. The broader awareness of the importance of the Internet is causing some governments, sometimes under the rationale of digital sovereignty, to seek to increase their level of control of the Internet, including by challenging ICANN in its role as steward of the DNS.

B.4 ICANN's Governance Trends

Summary of Trend Elements Collected During the Trend Sessions

- Related to Trend 3.1 on ICANN's Multistakeholder Model:
ICANN's multistakeholder model continues to face effectiveness and efficiency challenges. First and foremost, the concern over global health risks and the emerging trend of remote working created pressure on ICANN's ability to engage with its stakeholders and encourage continued community participation. Potential volunteer burnout, especially among the core of regular participants is another factor. Decreased levels or reduced effectiveness of participation in the virtual setting could impact ICANN's ability to do its work.

The challenge of reaching agreement in policymaking processes remains similar to what was identified in the previous three years. There is growing recognition for a need to prioritize to ensure that work is done in a timely manner and to prevent volunteer burnout.

The following is a summary of associated risks:

- The prolonged virtual setting and an uneven return to normalcy may impact the relationship-building among community members, as building ICANN multistakeholder relationships depends significantly on in-person meetings and engagement.
 - Remote participation could have an impact on the effectiveness of participation as it is easier to be a passive observer in a virtual setting than an active participant.
 - Limited volunteer capacity and the length of time needed to develop policy presents challenges to the multistakeholder model that could lead to the risk that some stakeholders will look to increased regulation to address policy problems.
- Related to Trend 1.04 on public awareness of ICANN:
The continued media and public attention on ICANN, on topics such as domain name market consolidation and DNS abuse, has spurred misconceptions and differing opinions about ICANN's remit and role in Internet governance. This increased attention has also led to greater awareness of the multistakeholder model and raised questions about the model's legitimacy and agility, including whether this is the right governance structure and whether its challenges will create more geopolitical pressure for dealing with domain name issues.
- Related to Trend 1.01 on transparency, accountability, inclusiveness, and openness:
ICANN's ability to ensure diversity and inclusiveness continue to be challenged. Newcomer retention challenges are enhanced in the prolonged virtual setting. Despite the greater number of young Internet users around the world, they are more active on large Internet platforms rather than searching for products and services in the domain name space. Moreover, the majority of new Internet users are non-

English speakers and many stakeholders do not have affordable or reliable Internet access, which are additional challenges to participation in the virtual setting. There is a risk that the participants in ICANN's multistakeholder processes do not reflect the evolution of the broader Internet user base.

Reduced or lack of participant diversity could have an immediate impact on and risk the legitimacy of the multistakeholder model. It poses an existential threat to ICANN's multistakeholder model if the outcome is insufficient and less diverse representation of the various stakeholders.

Questions over accountability and transparency arise due to the fact that the accountability mechanisms of ICANN's Supporting Organizations and Advisory Committees (SO/ACs) are not clearly defined. A recent example of that is the Third Accountability and Transparency Review Team (ATR3) in relation to its recommendation for a continuous improvement program.

Additional Observations from ICANN Org's Strategic Outlook Network

- Although data about registration and attendance at ICANN Public Meetings and stakeholders' membership numbers are valuable resources, they do not measure either the level of actual participation in ICANN policy work or the effectiveness of participation. It is not clear how participation is to be defined or how its effectiveness can be measured.
- During the virtual ICANN meeting cycle throughout the pandemic, the amount of work did not change for the regular core of volunteer participants within the community, although the level of interest in ICANN's work from newcomers may be decreasing. It may be useful to conduct research to more fully understand the challenges of newcomer onboarding and participation levels presented by virtual engagement and meetings.

B.5 Financials (and Domain Name Industry) Trends

Summary of Trend Elements Collected During the Trend Sessions

- Related to Trend 1.02 on ICANN's long-term funding:
Within the gTLD marketplace, market consolidation as well as some trends of vertical integration continue. There are several concerns related to the continued marketplace consolidation; it could lead to reduced funding for ICANN as a result of fewer contracted parties; it may also have an impact on the domain name industry's competitive landscape.

ICANN's financial position has remained strong throughout the COVID-19 pandemic, due to higher funding than anticipated at the beginning of the pandemic and savings from meetings and travel. However, the increasing market consolidation, a trend that more and more internet users are shifting to relying on specific online platforms for a wide variety of services and away from searching the Internet for these services, as well as the economic uncertainty in the current global climate, may still have an impact on ICANN's long-term funding.

ICANN's operating costs might increase to implement community recommendations and policy decisions. There will also be additional costs with future rounds of new gTLDs.

Additional Observations from ICANN Org's Strategic Outlook Network

Although market consolidation is happening, its impact on ICANN's financials has been minimal. The change to the number and size of some of ICANN's contracted parties does not mean that the multistakeholder model is therefore less effective or efficient, but consolidation may change the tone and the way that contracted parties interact with other stakeholders, including within the GNSO, and make the MSM less representative.

Since a thorough assessment of the demand for the next new gTLD round has not been performed, ICANN is at risk of a financial loss if there are few applicants, because of the high costs to implement GNSO's new gTLD Subsequent Procedures recommendations. There may be an opportunity to explore ways to enable smaller players to participate and whether there is a market for this strategy. Perhaps ICANN could build a prototype modeling a new round at a much lower cost than the last round. However, the goal of the new gTLD program is to increase competition, innovation, and consumer choice; ICANN should be transparent about the cost-benefit analysis of the program.

Although the higher than planned funding and net excess generated some perceptions of ICANN's favorable financial position towards the end of FY21, it is important to acknowledge that ICANN's funding trend is still flat. The overall perception is that ICANN's challenge is not so much a problem of the level of monetary resources available, but more a difficulty in prioritizing its work.

B.6 Other Hot Trend Topics

New gTLD Program

The topic of the new gTLD program and subsequent rounds came as a hot topic in the trend sessions this year, with trend elements and impacts identified in all six focus areas of interest for ICANN.

As ICANN gets closer to implementation (the GNSO Council [adopted](#) the final report of the Policy Development Process on New gTLD Subsequent Procedures in February 2021), some concerns are being vocalized louder relative to the subsequent rounds of new gTLDs:

- The substantial implementation efforts were brought up, with implications in terms of workload and resources, as well as the ability to fund the program.
- Some fundamental issues are perceived as needing to be resolved as a prerequisite into the new round, among which:
 - DNS abuse
 - IDN and UA
- Other technicalities and operational challenges associated with the program were also brought up (or may be perceived as not resolved to the satisfaction of all within the community), including:
 - Reserved geographic names and community names
 - Namespace collisions

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- Community priority evaluation
 - Private auctions contentions (“losers” are making money off of the “winners”)
 - Public interest commitments
 - Possibilities to lower the entry barrier
 - The fundamental question of the value of future rounds of gTLDs was brought up, as well as the effects of adding more gTLDs in the root.

Appendix C | Trend Impact Assessment

The impact assessment framework used for the trends is available in the separately attached Excel document entitled "[FY23 Trend Impact Assessment.xlsx](#)".



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