IEEE R8 Ad-Hoc Committee on Educational Infrastructures Report for 2024 by Albert Lysko

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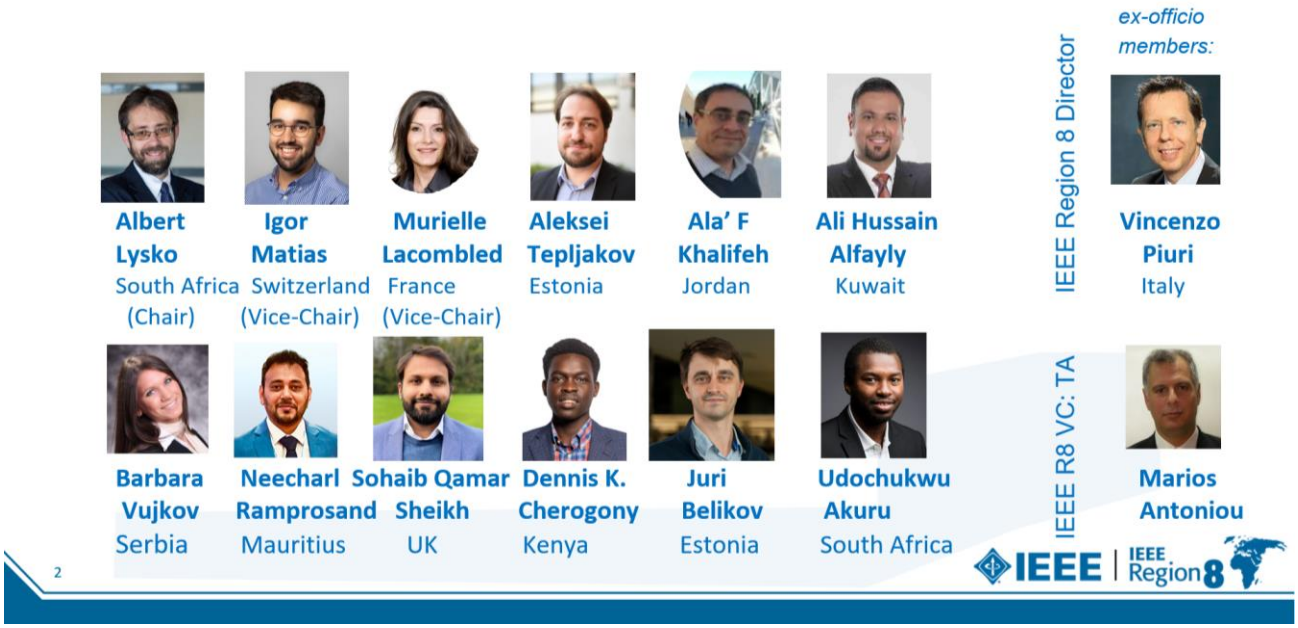
Committee member info and photos



Mission

This Ad-Hoc committee shall study services and infrastructures and prepare a framework to make technical knowledge and practical skills more accessible and support the expansion of Region 8 educational activities

Goals

1. Identify existing resources
2. Develop guidelines for conducting events to produce high-quality, usable content in various formats, such as videos, recordings, etc.
3. Create a framework for efficiently distributing educational content and materials, including storage and promotion strategies

Progress against goals

Table with the progress per goal

#	Goal	Progress

1	Identify existing resources	• Reviewed additional resources
		  ○ IEEE Resource Centree
		  ○ IEEE Collaboratec
		  and revised some of the reviews:
		  ○ IEEE.tv
		  ○ IEEE vTools
		  ○ IEEE R8 Local language program
		  ○ IEEE Centre for Leadership Excellence (CLE)/Volunteer Education
		  ○ EAB/IEEE Learning Network (ILN)
		• Prepared and executed a survey (with Section Chairs) regarding usage of the IEEE and non-IEEE tools (to be shared with Section Chairs)

2	Develop guidelines for conducting events to produce high-quality, usable content in various formats, such as videos, recordings, etc.	• Latest versios of the updated guidelines (with links):
		  ○ Tools/Repositories for Educational Materials
		  ○ Submission of Material for Posting into Repositories
		  ○ How to record IEEE Educational Events
		  ○ and
		  ○ Recording the educational material*
		  ○ Publicity plan for event organizers*
		  ** means it a new version is still being prepared*
		• Co-organized and presented R8 information session "Blitz - Professional and Educational Activities and Resources: Educational Resources (Platforms)" with R8 Professional and Educational activities Committee (on 23 Sep 2024)
		• Organing a series of talks on the resources/tools, in collaboration with R8 PE, to be held in November and early December:
		  ○ **Brief overview session** by Albert, 24?28 Oct 6pm CET
		  ○ **R8 Professional and Educational Activities** - by Andrejs (the Chair of that R8 PEAC). 4 Nov 6pm CET
		  ○ **vTools** - by Albert and Aubrey Walter, vTools Project Manager, MGA , 6 Nov 6pm
		  ○ **CLE** – by Ala, 7 Nov, 6pm CET
		  ○ **Collabratec** - by Juri and Dimuthu Anuraj, Collabratec Lead Ambassador, 18 Nov 6pm, 45min
		  ○ **IEEE.tv** – by Albert and Nick Lehotzky, Manager: IEEE.tv, 20 Nov 6pm,
		  ○ EAB/**ILN** – by Sohaib and EAB/ILN, 3 Dec 6pm CET
		  ○ **YouTube** - by Igor and TBC (still looking for a suitable presenter) - TBC
		  ○ **IEEE TA Resource Center** - by Dennis and TA Resource Centre - TBC
		  (eNotice will be sent on in the week of the 14 Oct 2024)
		•

3	~~Create a framework for efficiently distributing educational content and materials, including~~	• In response to 2023 report, R8 requested the committee to change the goal prepare for presenting the information to the global IEEE, as the system would clearly play a

	~~storage and promotion strategies~~ Analyse and possibly propose a framework for efficiently distributing educational content and materials, including storage and promotion strategies	global rather than only R8-level role • Prepared and executed a survey (for the committee members and selected external stakeholders) on the prioritization of work • Prepared a longer-term plan • Prepared a draft funding proposal for the aggregator • Submitted a recommendation to MGA vTools for vTools Events to include hosting additional data (link to recording etc.)

Please see additional details in the Annexures.

- Summary of the results of the survey on the usage of tools
- Comparison of tools:
- The summary of the results of the survey on prioritisation of the work of the committee
- Samples of guidelines
- Proposed 4-year development roadmap
- Proposed structure of the aggregator

Conclusions

- The committee reviewed several existing platforms and considered possibility of setting up a new platform.
- It was found that there is no single platform currently available that fits the needs of our members. Hence, we are bound to see varying levels of adoption of these platforms.
- A customised platform could be better suited to the needs of our members but requires a larger commitment from IEEE - this includes volunteer resources, budget for CAPEX and OPEX, and buy-in from the IEEE organisation at large.

Committee of R8 Specific Issues 1

1. –

Points of Concern

-

Proposals for improvements/Other Issues to report

- As the task is large, the committee needs significantly more people work efficiently.
- It will offer a significant benefit to provide support for face-to-face meetings for the committee members.

Annexures

Summary of the results of the survey on the usage of tools

(36 current Section Chairs were the respondents and they completed 58% of the entries):

Questions:	IEEE vTool Events	YouTube	IEEE.tv	IEEE EAB Learning Network (ILN)	IEEE Centre of Excellence (CLE)	IEEE Collaboratec	IEEE TAB Resource Centre
Do you know this tool? (Y/N)	100%	89%	75%	53%	53%	91%	50%
How often do you view materials from this tool/platform? (2=often, 1=rarely, 0=never)	1.8	1.3	0.6	0.5	0.6	0.9	0.4
How often do you upload materials to this tool/platform? (2=often, 1=rarely, 0=never)	1.5	0.5	0.1	0.1	0.2	0.4	0.0
How often do volunteers of your Section view materials from this tool?	1.3	0.9	0.4	0.2	0.3	0.4	0.2
How many volunteers in your Section know how to upload materials to this tool? (number of volunteers)	14.7	82.1	12.5	3.7	4.9	15.7	3.0
How often do volunteers of your Section upload materials to this tool? (2=often, 1=rarely, 0=never)	1.3	0.5	0.2	0.2	0.1	0.4	0.1
Do you know whether this tool has an option(s) to generate revenue from the uploaded materials for your Section? (0=do not know, 1=has options but I do not like them, 2=has the options I like)	0.2	0.3	0.0	0.0	0.0	0.1	0.2
Do you now have materials you are ready to contribute to the platform? (Y/N)	67%	57%	38%	27%	23%	48%	27%
If there is an option to generate profit from the tool, what would be a reasonable cost (in USD) for viewing educational material, per viewer?	1, 0, 0, 0, 10, 0, 5, 0, N, 0.1	5, 0, 1, 10, $5, $100, 5, 0, Y, 0.1	10, 0, 1, 10, $20, 0, N, N, 0.1	0, 0, 1, 10, !, 0, N, 0.1	0, 0, 0, 10, 0, N, 0.1	?, 0, 0, 0, 10, 0, N, 0.1	N, 5, 0, 1, 10, 0, N, 0.1
What would be a reasonable cost (in USD) for uploading, storing and making the materials available on this platform?	0, 0, 5, 10, 0, 0, 0	2, 0, 0, 10, $5, 0, 0, 100, 0	4, 250, 0, 10, $20, 0, 0, N, 0	3, 0, 10, 10, 0, 0, 0	0, 0, 0, 10, 0, 0, 0	?, 0, 0, 0, 10, 0, 0, 0	0, 0, 5, 10, 0, 0, 0, 0
Which are the best 3 tools/platforms for uploading to and hosting educational materials? (1=the best, 2=second best, 3=third best; please leave other entries blank)	1.6	1.4	1.8	2.2	1.8	2.3	1.9
Response rate	70%	66%	57%	54%	51%	57%	52%

Conclusions from this survey

- Every Section Chair knows vTools well
- Most know Collabratec, YouTube and IEEE.tv (91%, 89% and 75%, respectively)
- Relatively poor knowledge of CLE, ILN, TAB Resource Centre (53%, 53% and 50%, respectively)
- Readiness of materials to contribute correlates to the familiarity with the system
- Big diversity on costs: most want free access; some ~$3-$10

Note on reliability of the survey

36 of 60 Section Chairs responded (60%). The 36 respondents completed 58% of entries.
Estimation of the margin of error can be done as follows:

1. Z-Score for 95% Confidence Level: 1.96
2. Sample Proportion ppp: 0.5 (assuming no prior knowledge of population proportion)
3. Sample Size nnn: 36
4. Population Size NNN: 60

$$MoE = 1.96 \times \sqrt{\frac{0.5 \times 0.5}{36}} \times \sqrt{\frac{60 - 36}{60 - 1}}$$

The calculated Margin of Error (MoE) is approximately **10.4%** at a 95% confidence level. The margin of error of 10.4% means that the responses from the 36 Section Chairs can be expected to vary from the actual population value by ±10.4%. This level of variability suggests that while the data provides valuable insight, it should be interpreted with caution, as there is a relatively high potential for deviation from the true population values.

To try to incorporate the 58% completeness rate and thus establish the worst case scenario, we can adjust the sample size in the margin of error formula, i.e. the number of respondents could be considered to be around 36×0.58=21. The adjusted Margin of Error (MoE), considering the 58% completeness rate, is approximately **17.5%** at a 95% confidence level, even larger. It may however be noted that the rate of completeness seems to have been affected by the familiarity with the tool, and thus may also be seen as a mere indication of not knowing that to write rather than really influencing the MoE.

Nevertheless, to improve accuracy and get a better understanding of the dynamics with less experienced volunteers and members, we are preparing to run a R8-wide survey.

Comparison of tools:

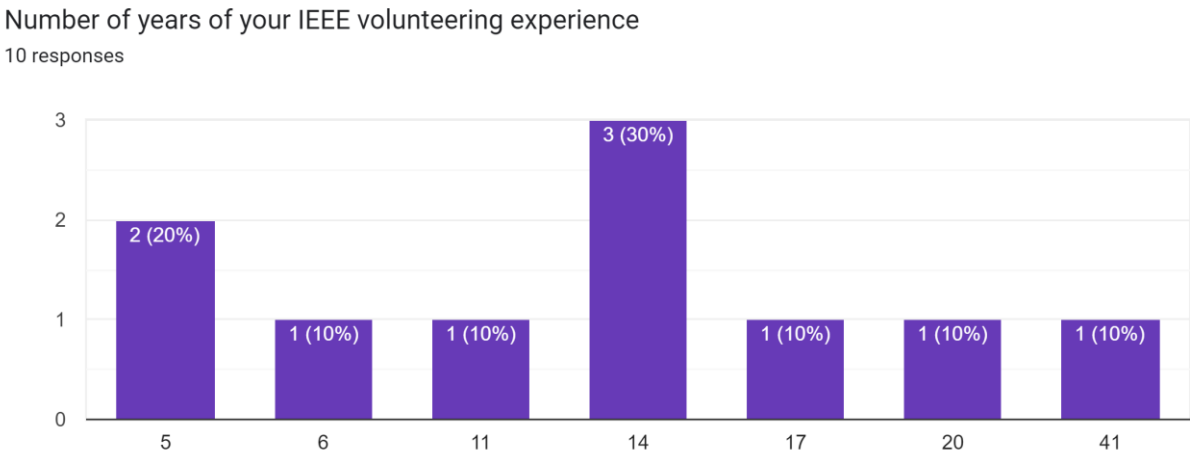
Item	Content	Access	Upload
IEEE tv	videos	anyone	members
IEEE vTools	Text	volunteers	n/a (can ask to implement)
Center for Leadership Excellence (CLE), IEEE Volunteer Education	Multimedia and training, provided by/via IEEE	Members, volunteers	By IEEE staff
YouTube	Video, audio	Anyone	YouTube account(s) with access to the specific channel
TikTok			
IEEE Learning Network (ILN) and Educational Activities Board (EAB)	Videos (MP4 or SCORM)	Selective access based on registration and, for some videos, payment	As per agreement/ EAB approved content creators
IEEE Resource Centre	Videos, Text	anyone	IEEE Societies

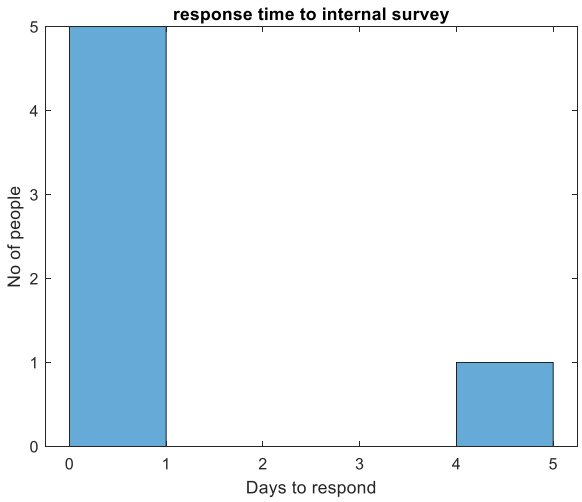
Item	Approval	Cost	Comments
IEEE tv	Yes	none	
IEEE vTools	Mostly self-approved	none	
Center for Leadership Excellence (CLE), IEEE Volunteer Education	By IEEE staff?	none	
YouTube	Automatically approved after YouTube rules compliance check	None (with ads); Ad-free access at marginal cost	Four channels found relevant: TryEngineering, IEEE Academic, IEEE Academic Portugal, and IEEE Xplore
TikTok	*Deemed unsuitable due to political instability and associated access challenges*		
IEEE Learning Network (ILN) and Educational Activities Board (EAB)	EAB governance process for approvals	Free for hosting links; $4/user license per year for hosting videos. Depending on complexity, there may be additional one-off costs	Can run customised profiles and provide commercial services
IEEE Resource Centre	Approval needed	Varying from free to a few USDs	

The summary of the results of the survey on prioritisation of the work of the committee

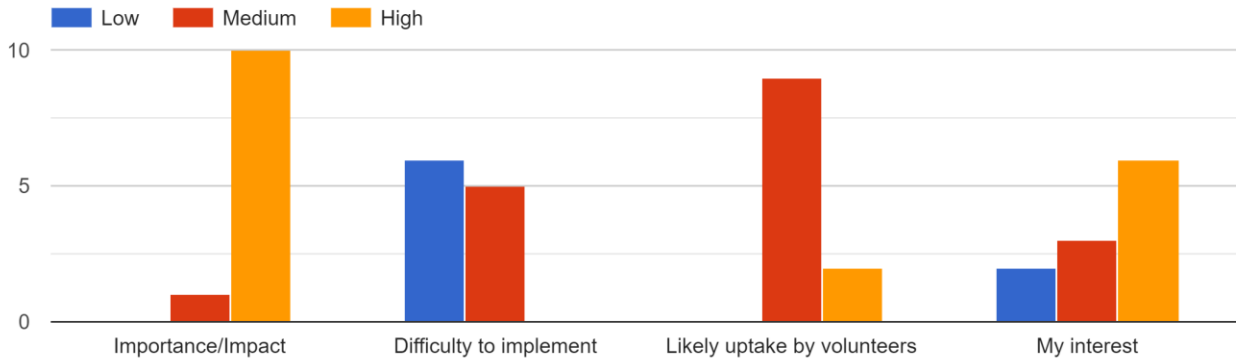
(from https://docs.google.com/forms/d/1Dcaiq4yHhLSIlF1S7SsGuagEhZRbw61N8n3cRXs6ZdM/edit#responses and from post-processing):

No of responses = 10.

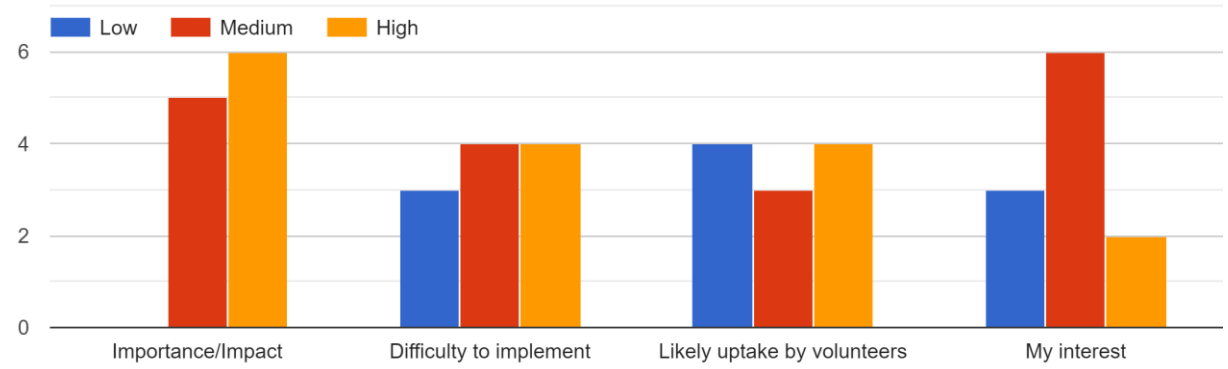




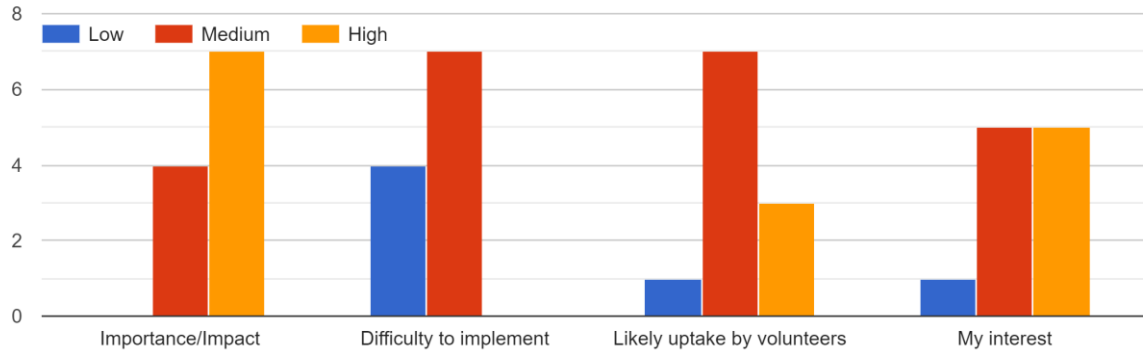
A) Promoting the IEEE resources/tools in R8 webinars, incl. co-presenting with the owners of the IEEE tools



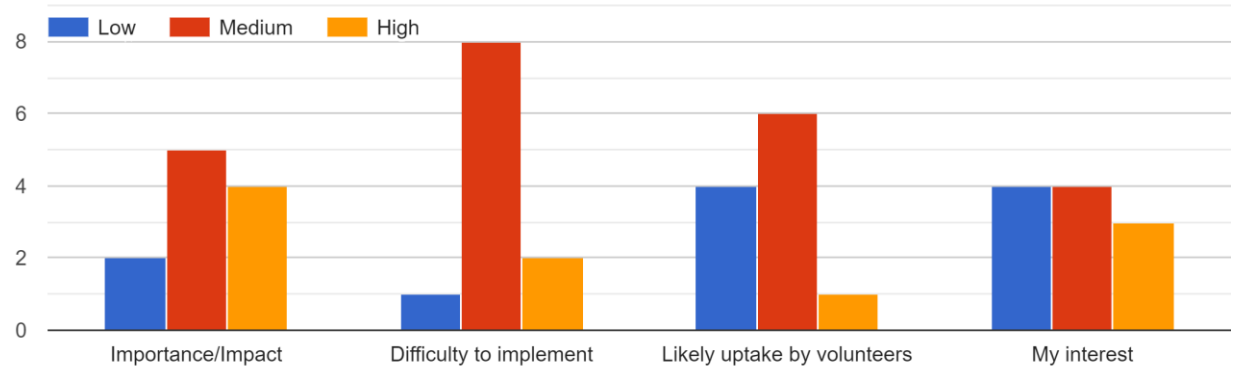
B) Update our Guidelines, get them closer to “cookbooks”



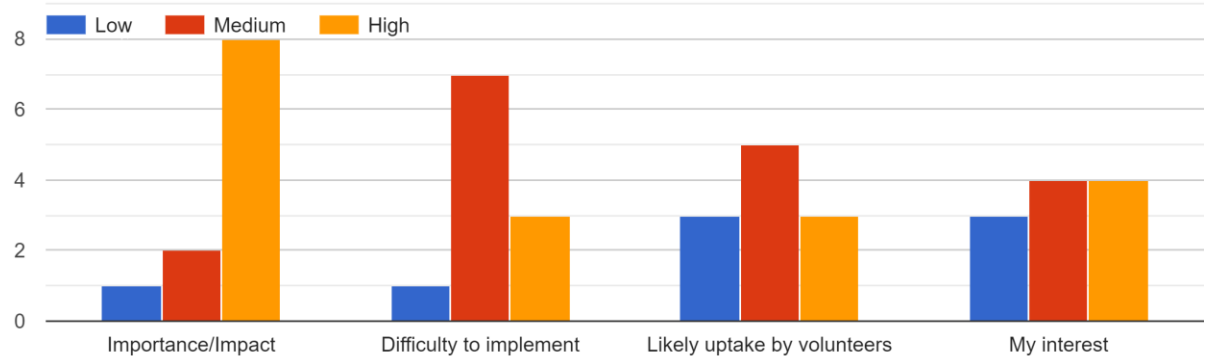
C) Cooperate with EAB, R8 Committees



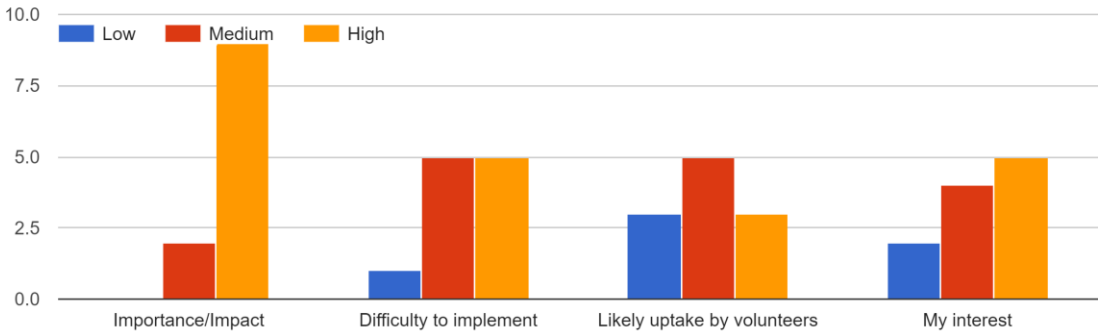
D) Phase 2 of market research to understand the preferences of potential uses



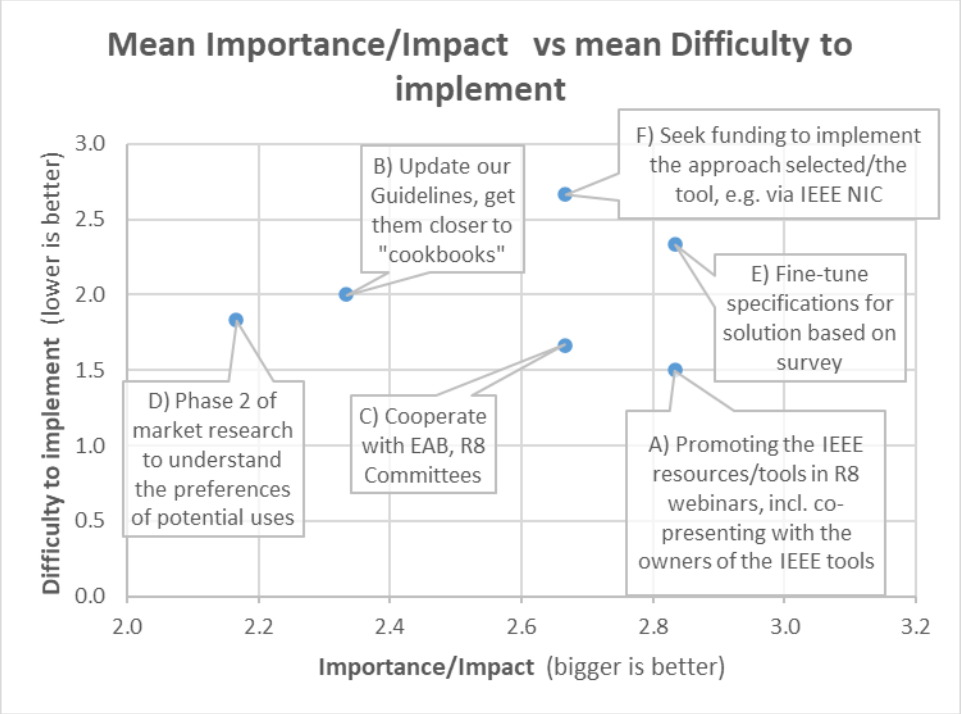
E) Fine-tune specifications for solution based on survey



F) Seek funding to implement the approach selected/the tool, e.g. via IEEE NIC



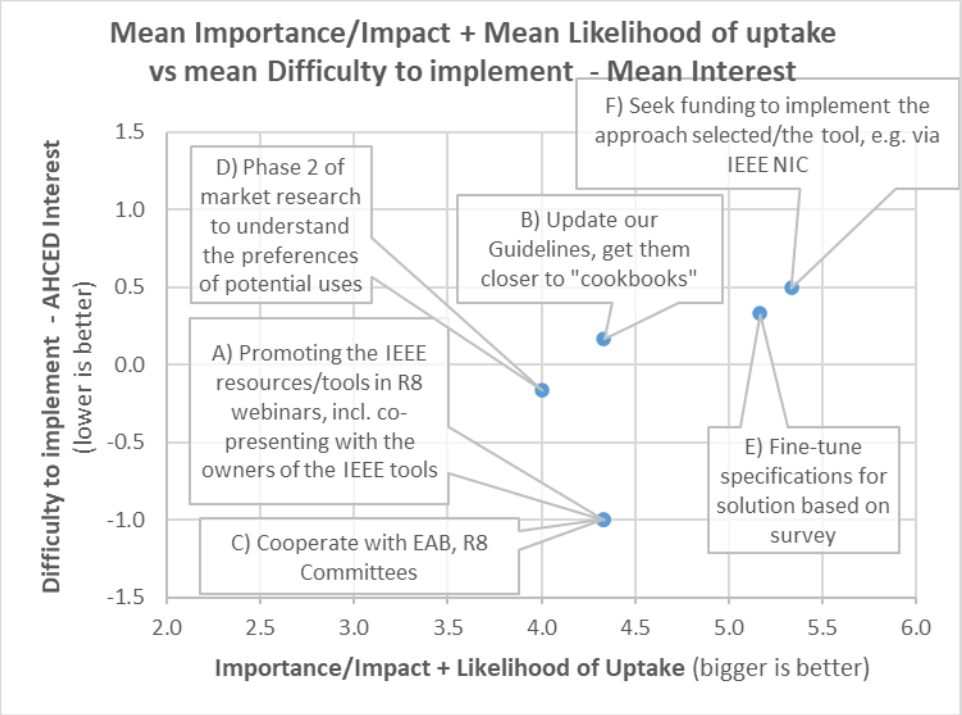
The prioritisation survey data was post-processed to derive a combined metric:



This shows that

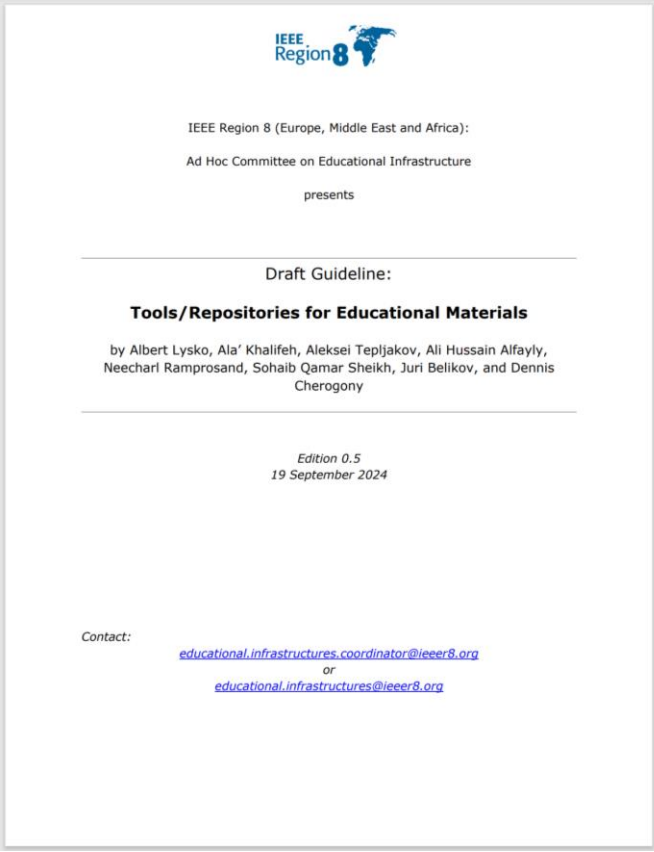
- (A) promoting the IEEE resources/tools in R8 webinars is the best value
- (C) cooperation with EAB and R8 committees is a reasolably good way to go
- (E) fine-tuning the specifications can be expected to offer a high impact (but this does assume that6 a survey regarding the specifications is completed)

The next approach also considered the personal interest to do a particular type oof work:



Samples of guidelines

Tools/Repositories for Educational Materials by Albert Lysko, Ala' Khalifeh, Aleksei Tepljakov, Ali Hussain Alfayly, Neecharl Ramprosand, Sohaib Qamar Sheikh, Juri Belikov, and Dennis Cherogony (2024), 27 pages:



IEEE Region 8 (Europe, Middle East and Africa):

Ad Hoc Committee on Educational Infrastructure

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Draft Guideline:

Tools/Repositories for Educational Materials

by Albert Lysko, Ala' Khalifeh, Aleksei Tepljakov, Ali Hussain Alfayly, Neecharl Ramprosand, Sohaib Qamar Sheikh, Juri Belikov, and Dennis Cherogony

Edition 0.5
19 September 2024

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IEEE Region 8 Ad Hoc Committee on Educational Infrastructure
Draft Guideline "Tools/Repositories for Educational Materials", 6 Aug

Prepared by
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IEEE Region 8 Vice-Chair: Technical Activities Marios Antoniou (Cyprus) *ex-officio*
IEEE Region 8 Director Vincenzo Piuri (Italy) *ex-officio*

This Guide is a part of a series of guides by R8AHCEI:

- **Tools/Repositories for Educational Materials** by WG1: Albert Lysko, Ala' Khalifeh, Aleksei Tepljakov, Ali Hussain Alfayly, Neecharl Ramprosand, Sohaib Qamar Sheikh, Juri Belikov, Dennis Cherogony
- **Promotion/Publicity Plan for Event Organisers (TBA)** by WG2: Ala' Khalifeh, Neecharl Ramprosand, Albert Lysko
- **Submission of Material for Posting into Repositories** by WG3: Sohaib Qamar Sheikh, Aleksei Tepljakov
- **How to record IEEE educational events** by WG4: Igor Matias, Albert Lysko, Aleksei Tepljakov, Murielle Lacombled
- **Incentives and Monetization (TBA)** by WG5: Murielle Lacombled, Albert Lysko

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Submission of Material for Posting into Repositories, by Sohaib Qamar Sheikh, Aleksei Tepljakov, Murielle Lacombled, and Albert Lysko:

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Guideline:

Submission of Material for Posting into Repositories

by Sohaib Qamar Sheikh, Aleksei Tepljakov, Murielle Lacombled, Albert Lysko

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08 August 2023

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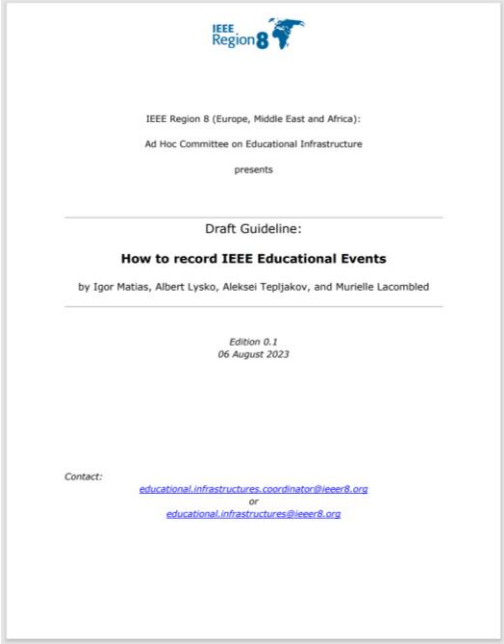
How to record IEEE Educational Events, by Igor Matias, Albert Lysko, Aleksei Tepljakov, and Murielle Lacombled



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Draft Guideline:

How to record IEEE Educational Events

by Igor Matias, Albert Lysko, Aleksei Tepljakov, and Murielle Lacombled

Edition 0.1
06 August 2023

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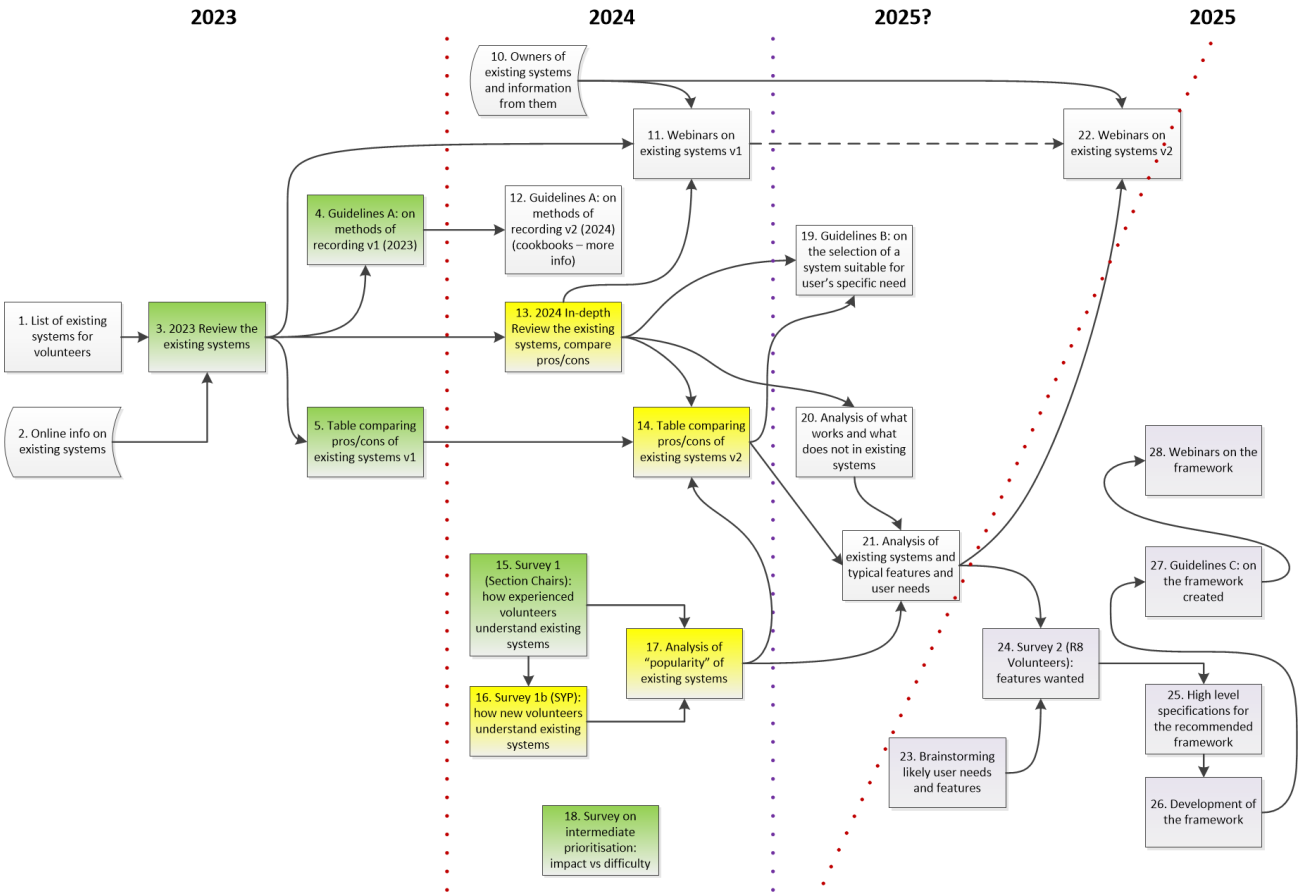
Proposed 4-year development roadmap



Proposed structure of the aggregator

(a part of the 2023 proposal to R8 and a part of the draft funding proposal):