

Proposal No. 21
(Proposal details for the R&D scheme of USOF)

Subject: Text to Speech conversion for Indian English and Indian vernacular languages

In disaster management domain effective Text to Speech (TTS) solution has an important role in disseminating disaster early warning. Particularly audio message alerts in Indian accent and Indian vernacular language will help common people understand disaster alerts take necessary actions based on them to protect precious lives and properties.

The Text to Speech solution will be used to generate audio message for dissemination over different media like Radio, TV, Mobile App, Website etc.

DOT invites participation from the Indian start-ups/ organizations/ research and academic Institutions in a collaborative solution led by C-DOT for Text to Speech solution in Indian accent for Indian English and Indian vernacular languages. The potential participants should have domain expertise in Speech Synthesis, Text to Speech related technologies. The support of Indian Accent and Indian vernacular languages are mandatory requirements.

The final outcome of the collaborative development project shall be a working solution that can be integrated in software application programmatically. Through a process of rigorous technical evaluation, DOT shall select participants holding the most promise of delivering commercial grade outcomes as its development partners

S. No.	Parameters	
1	Language Support	Indian English, and 22 scheduled Indian Languages
2	Supports Text Normalization in speaking	
	i. Address	Processes Indian addresses, including district, city, village, block, etc. places names
	ii. Abbreviations	Handle abbreviations list of provided values
	iii. Date and Time	Process date and time statements such as: 14:00:00 hrs; from 15:30 hours IST of today the 17/06/2022; at 0230 IST of 11.05.22; from 15:15 Hrs IST of date 20.04.2022; etc.
	iv. Ordinal Numbers	Process ordinal numbers: 1 st as first, 2 nd as second, etc.
	v. Numbers	Handle numbers (year, telephone numbers, digits)
	vi. URL, E-mail, File name	Handle URL address, e-mail, file name extensions in the text message

	vii. Currency	Processes currency amounts specified either with monetary symbol such as ₹, or as associated abbreviation like INR.
	viii. Units of measurements	Should handle terms for measurement of distance, speed, time, etc. like km, kmph, s, etc.
	ix. Special Characters	Handling of characters like -, /, &, etc. e.g., '30-40 kmph' should be read as 'thirty to forty kilometer per hour'.
3	Voice Qualities	
	i. Type of Voice	Female and male
	ii. Accent	Indian
	iii. Sampling rate	Configurable
	iv. Audio type	Stereo and mono
	v. Pitch	Configurable
	vi. Speed	Configurable
4	Custom dictionary support	Provides feature to add custom dictionary in Text to Speech Engine, allow text rule to speak out particular word in desired form
5	Scripting Language Support	SSML (optional)
6	Character length Support	Min. 500 characters in single request
7	Processing Time	Not more than 1 second per request
8	Concurrent Request Handling	Support up to 100 concurrent requests

Format of Response

Companies / organizations / institutions / individuals developing enabling technologies / modules / components / subsystems / products are required to respond in the format provided in Annexure-A, on the DOT website ([link address provided- refer "format of response"](#))