MUCS 2021: MUltilingual and Code-Switching ASR challenges for low resource Indian languages

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[5]**IBM Research India, Bangalore, India**
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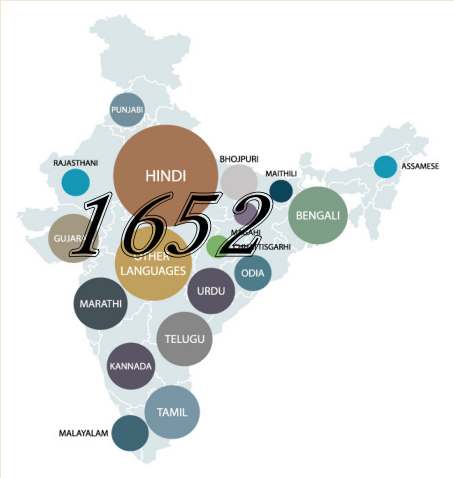
[7]**Microsoft Corporation, Bangalore, India**

Introduction

Language diversity



- Most of the languages are low-resource.
- Code-switching naturally happens between Indian languages and English.

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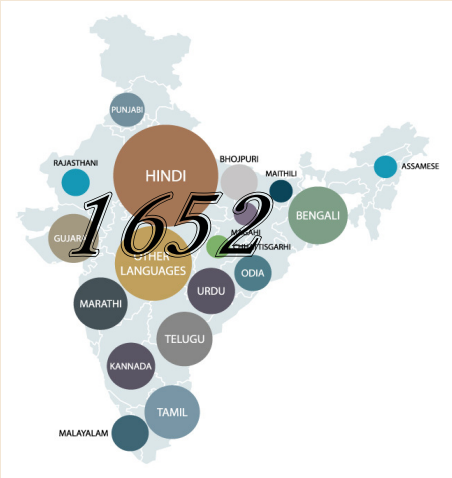

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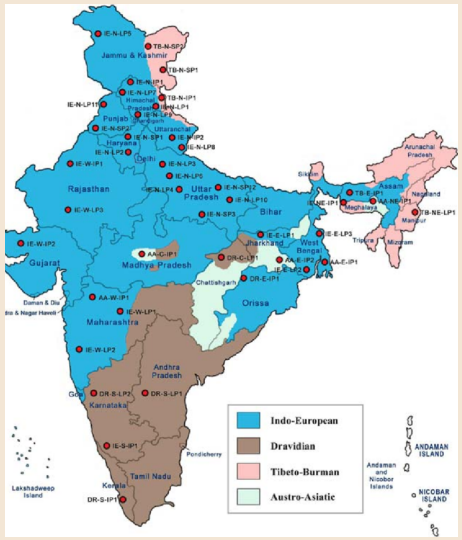

- Evolved from four language families.
- Similar based on demographic regions.

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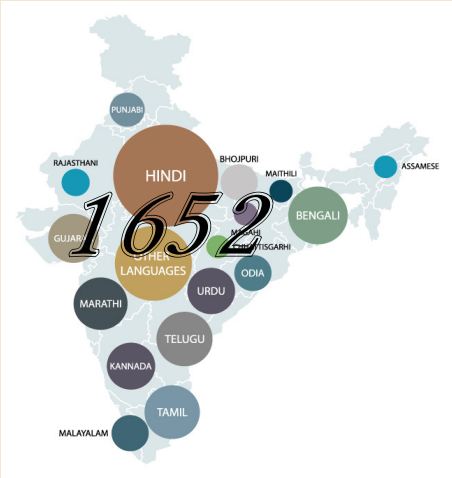

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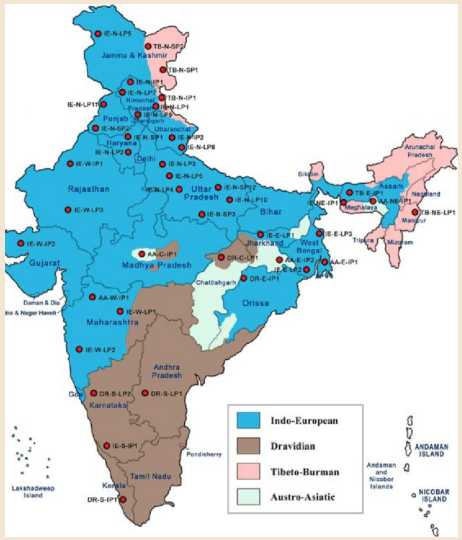

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2. **Code-switching ASR**: Exploit code-switching patterns to help in modelling ASR.

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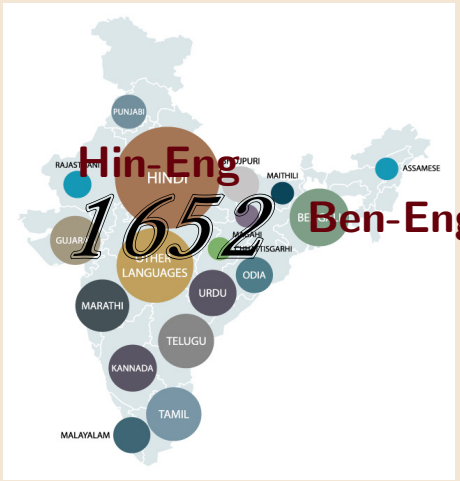

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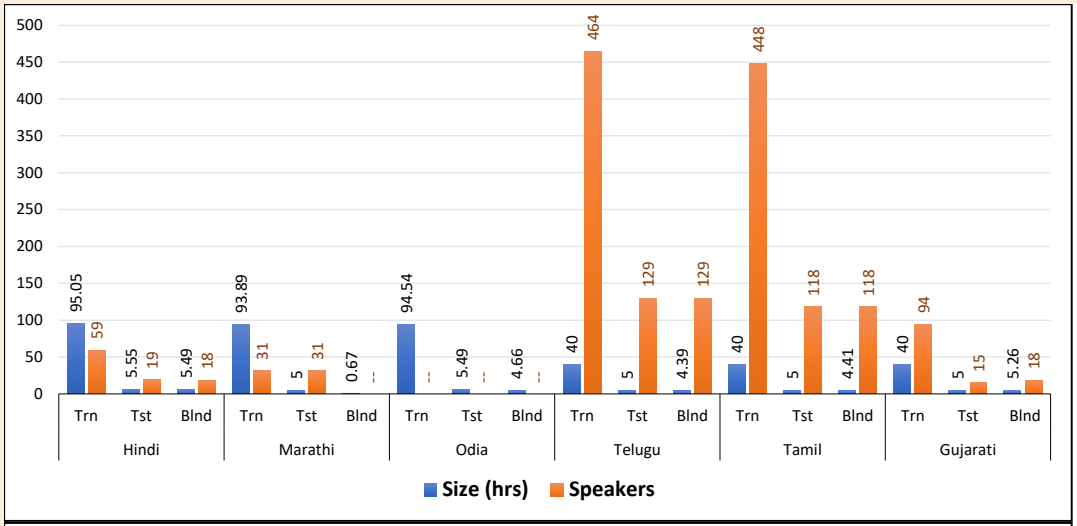
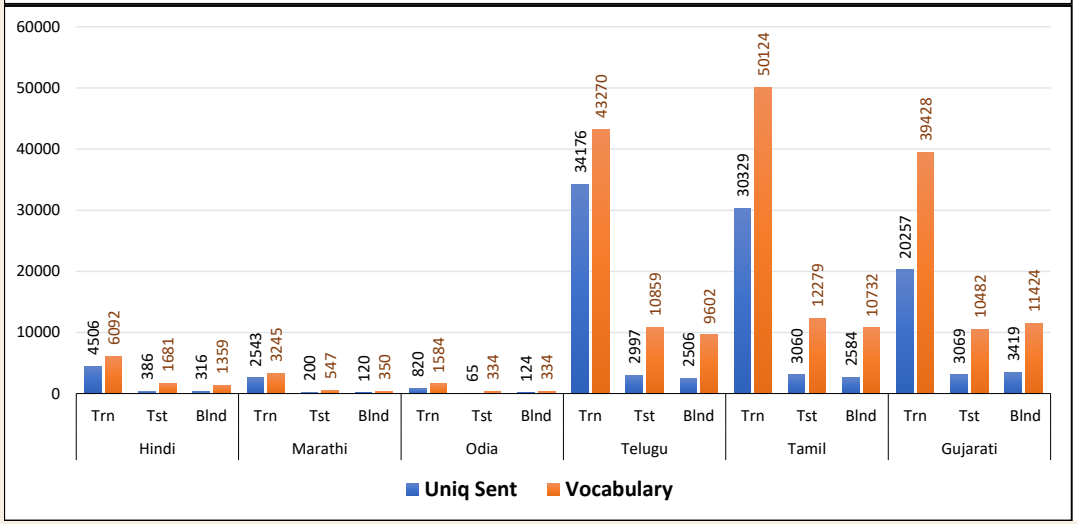
Data details: Multilingual ASR[1]





[1], "Indian Language Speech sound Label set (ILSL12)", Indian Language TTS Consortium and ASR Consortium

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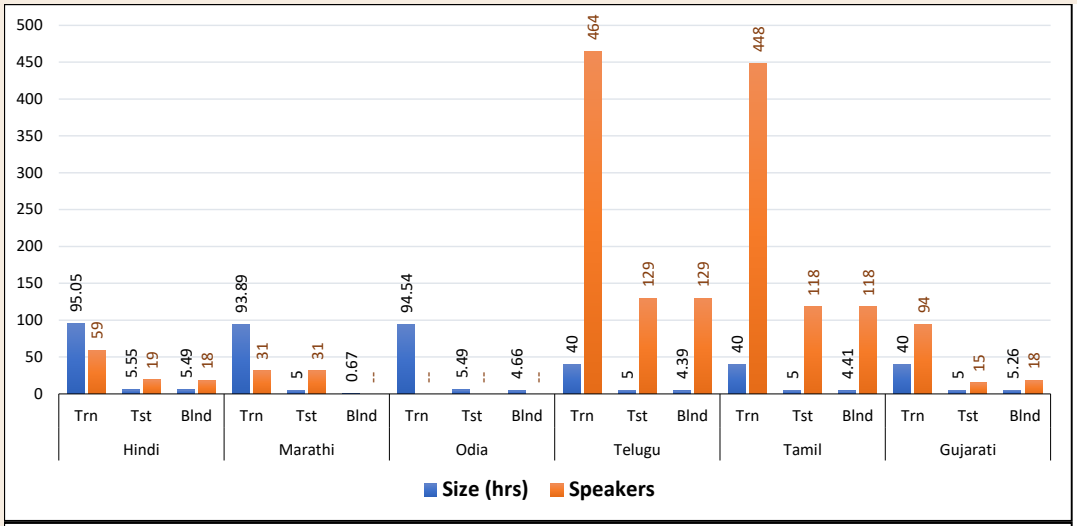

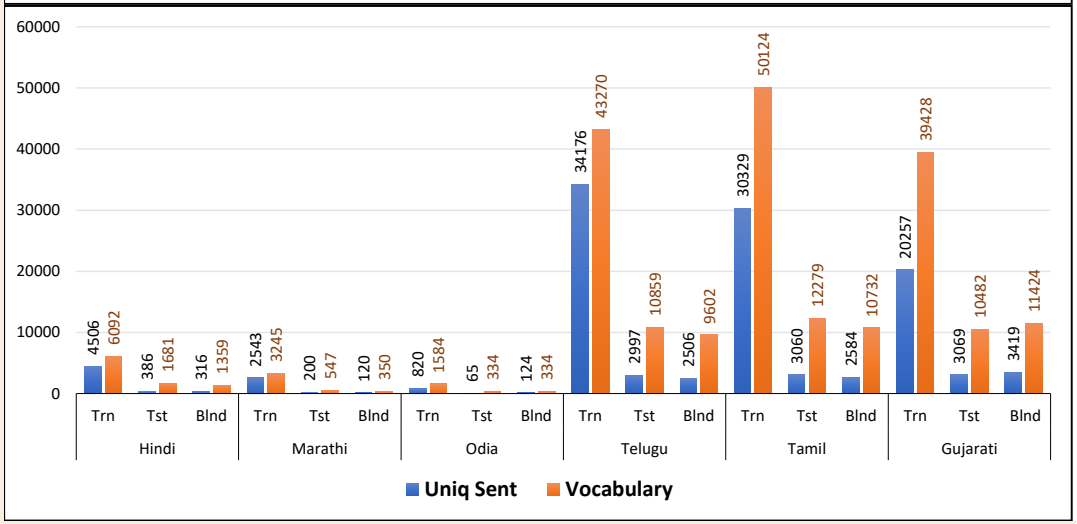

- A total of ∼450 hrs.

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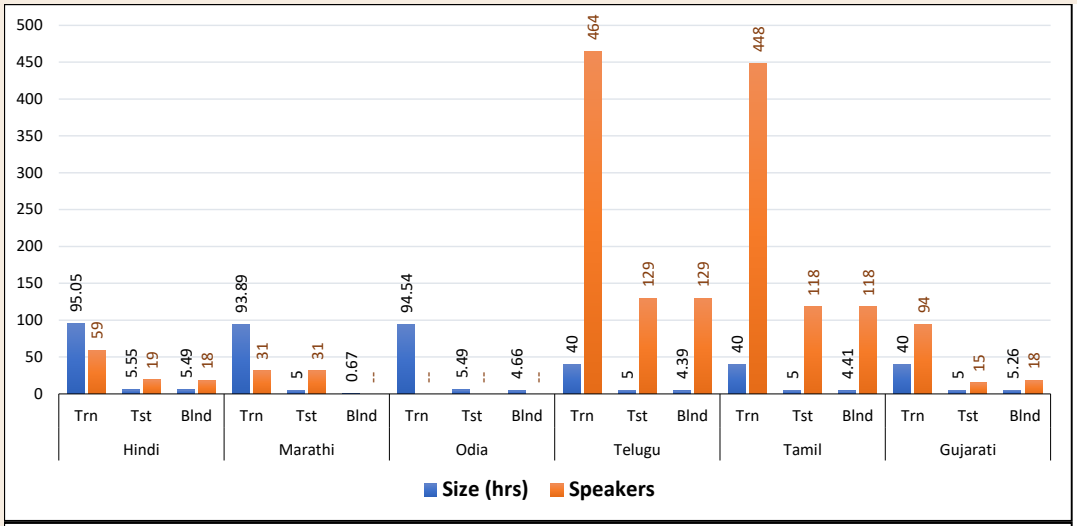

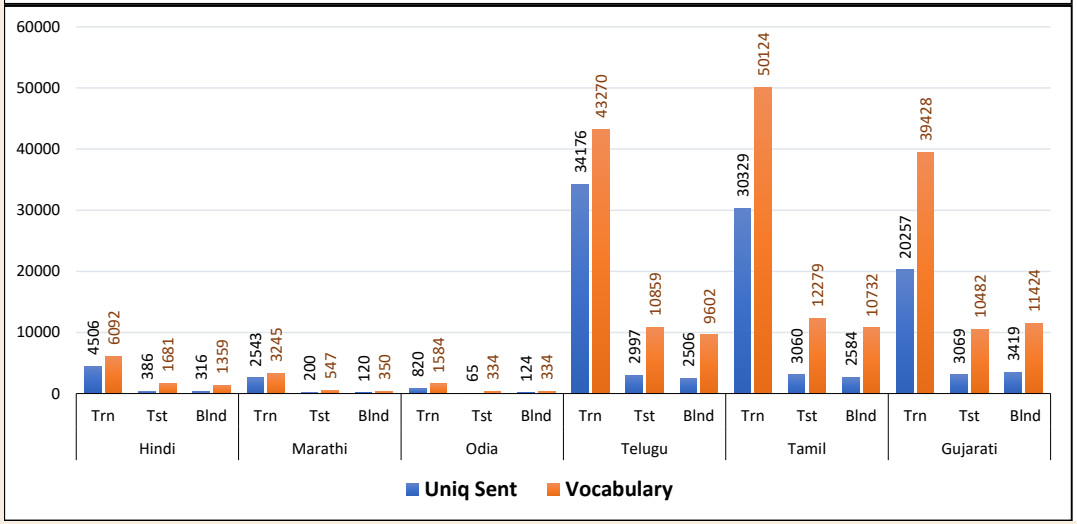

- A total of ∼450 hrs.
- Grapheme set:
  - Indian language speech sound label set (ILSL12) standard.
  - Size: 69, 61, 68, 64, 50 and 65.

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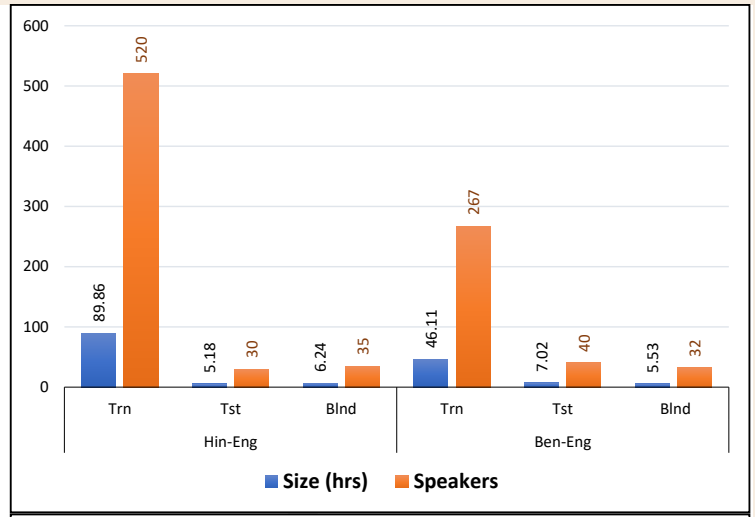
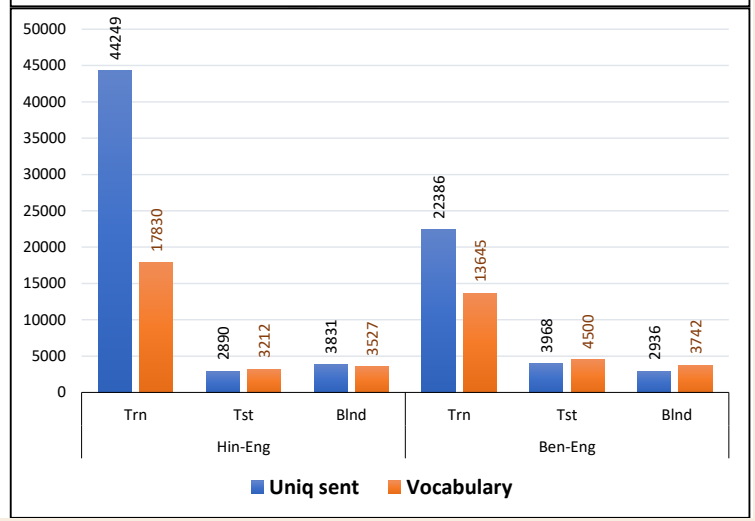
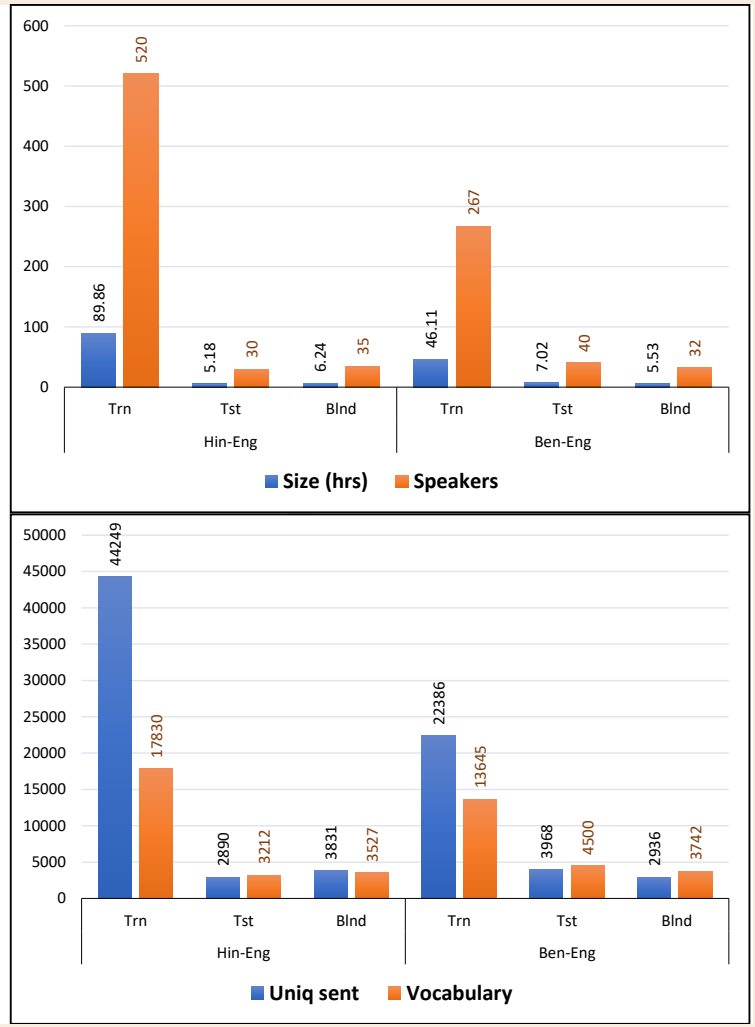
Data details: Code-switching ASR





Data details: Code-switching ASR

- A total of ∼150 hrs.



Data details: Code-switching ASR

- A total of ∼150 hrs.
- Technical content of lectures
  - Sentence time-stamps available
  - Alignment is used to obtain audio files for each sentence segment.