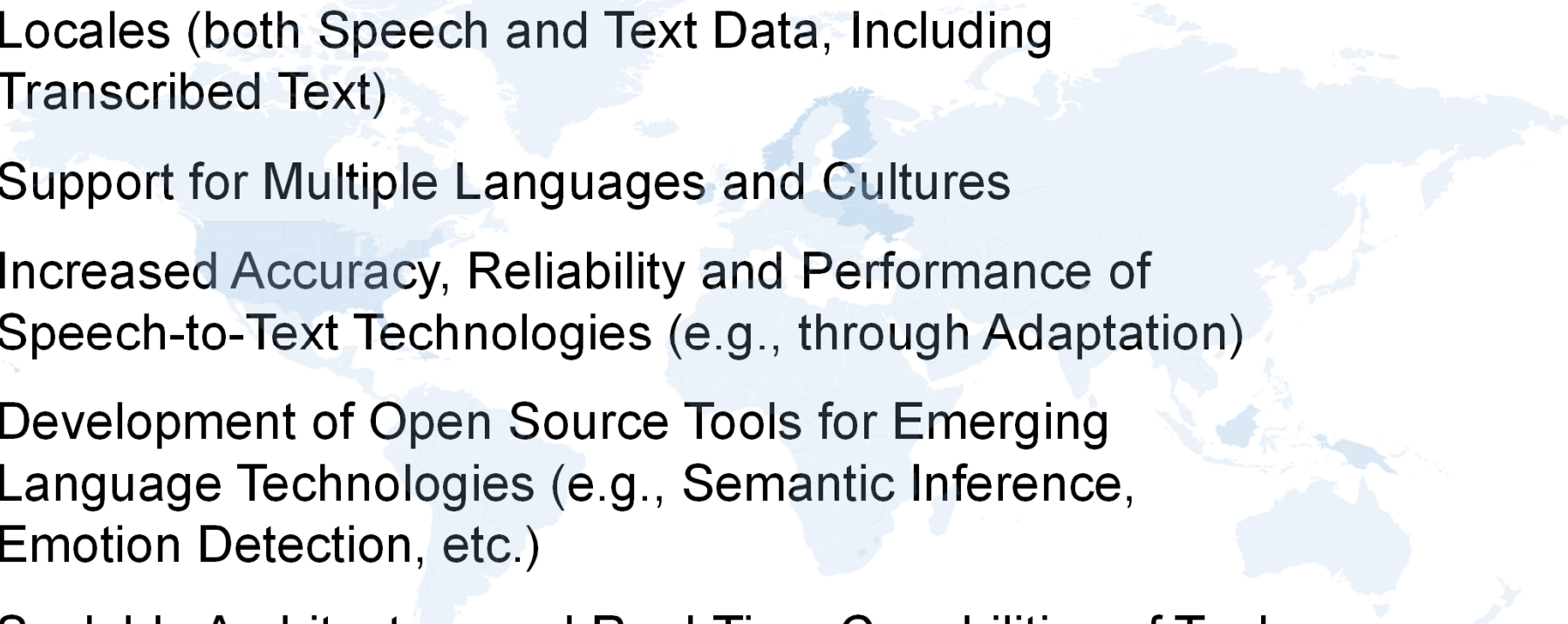# NICE Systems, LT Innovate Summit
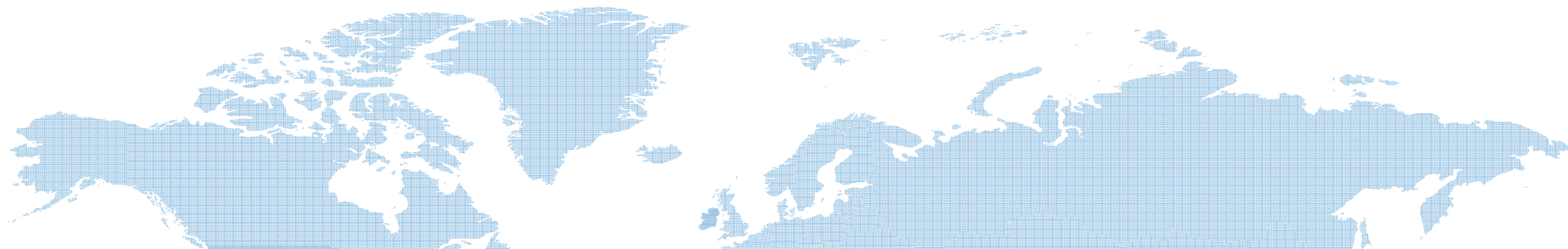
Dan Eylon, Ph.D., Head of R&D, Interaction Analytics

19th June 2012

NICE Enterprise Analytics R&D Group

- ~20 Engineers

- Speech, Text and Language Modeling Activities

- State-of-the-Art Technologies and Achievements in These Areas

- Deliverables Used in Actual NICE Products, Processing Multi Millions of Interactions

- 87 Granted Patents in Relevant Fields

Dan Eylon

- Head of the Analytics R&D Group, NICE Enterprise Group

- 28 Years of Experience in Algorithm Research and Software Development, 12 patents in relevant fields

- Ph.D. (Physics), Tel Aviv University

- Unsupervised Adaptation of LT (both Speech and Text) to a Wide Range of Domains and Environments

- Combining Phonetic Search with Speech-to-Text Technologies for Improved Coverage and Performance

- Optimizing Text Analytics Algorithms to Work with Transcribed (Spontaneous!) Interaction Text

- Automatic Discovery of Emerging and Unknown Interaction Topics

- Semantic Inference: "I Waited too Long" ⟺ "The Service was Slow"

- Real-Time NLU ("SIRI-Like") for Human-to-Human Speech Interactions (Applications: Fraud Detection, Compliance, Risk Mgmt, etc.)

- Emotion & Sentiment Detection – With Adaptive Capabilities

Barriers and Possible Collaboration Points

- Availability/Acquisition of Data from Relevant Domains and Locales (both Speech and Text Data, Including Transcribed Text)

- Support for Multiple Languages and Cultures

- Increased Accuracy, Reliability and Performance of Speech-to-Text Technologies (e.g., through Adaptation)

- Development of Open Source Tools for Emerging Language Technologies (e.g., Semantic Inference, Emotion Detection, etc.)

- Scalable Architecture and Real-Time Capabilities of Tools

THANK YOU