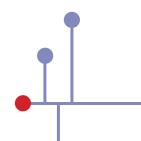


FUNDED BY:





ABOUT SADILAR

The **South African Centre for Digital Language Resources (SADiLaR)** is a national research infrastructure (RI), that is part of the South African Research Infrastructure Roadmap (SARIR). Its strategic function is to create, manage, and distribute **digital language resources (DLR)** and applicable software for all official languages in South Africa through its digitisation programme, while through its digital humanities (DH) programme, SADiLaR stimulates and supports computational research and development in the humanities and social sciences (HSS).

SADiLaR also contributes as an enabler of activities related to language planning and development, and provides support in the South African context, especially towards the implementation of the new Language Policy Framework for Public Higher Education Institutions.

The infrastructure is responsive to the imperatives of the Constitution of the Republic of South Africa, 1996, and the Use of Official Languages Act, 2012, pertaining to the equal development and use of the 12 official languages of the country.

As a human-centered RI, SADiLaR understands the importance of the human capacity required in aiming for a transformed digital future in a science-literate and science-aware society. Through its activities and hosted DLR and services, the RI contributes to unlock access to knowledge in all official South African languages.

Vision

To ensure a transformed participative digital future for our official languages for people in all walks of life.

Mission

- 1. We enable the use of our official South African languages in research and development activities through active DLR aggregation and development towards sustainable multilingualism.
- We enable the implementation of the New Language Policy Framework for public higher education institutions through expert-tailored support and services towards unlocking epistemological access to knowledge in all official languages.
- 3. We stimulate and create DH communities of practice as an infrastructure.

The SADiLaR Strategy (2024-2029) is available here:

https://sadilar.org/en/vision-strategy-new/

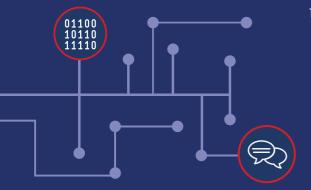
SIX STRATEGIC OBJECTIVES OF SADILAR

- 1. **Research:** Stimulate and advance the scholarship of human language technologies (HLT) and DH in South Africa and across the African continent, and further strengthen Global South knowledge production and dissemination pathways, thereby contributing to global knowledge production.
- **2. Technology and resources:** Enhance the development, deployment and maintenance of software and technologies in the domains of DLR and DH by strengthening the technical infrastructure.
- **3. Projects and services:** Sustain and enable a broad range of multiphase projects and services in SADiLaR's mandate by increasing internal and external synergies.
- **4. Good governance:** Foster good governance and work towards project sustainability and landmarking of the infrastructure.
- **5. Communication:** Nurture excellent communication, SADiLaR brand management and stakeholder engagement.
- **6. Team:** Promote and nurture staff development and well-being through recognition and progression.

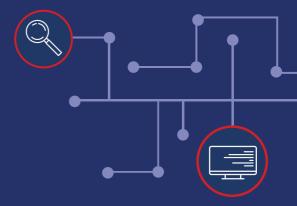


WHAT DOES SADILAR DO?

SADILAR RUNS THREE PROGRAMMES:



- I. A digitisation programme which entails the systematic creation of relevant digital text, speech and multimodal resources related to all official languages of South Africa, as well as the development of appropriate natural language processing software tools for research and development purposes.
- A Digital Humanities
 programme which facilitates
 research capacity building by
 promoting and supporting the
 use of digital data and innovative
 methodological approaches
 within the humanities and social
 sciences.



3. The Higher Education Sector Support Programme (HESSP). HESSP is a targeted, national intervention designed by SADiLaR to directly address the most pressing challenges identified in the 2023 National Language Resources Audit. This programme addresses sector-wide gaps in human capacity, institutional infrastructure, and linguistic expertise that hinder the sustainable implementation of the Language Policy Framework for Public Higher Education Institutions—a cornerstone of South Africa's commitment to equitable access, epistemic justice, and academic success. At its core, the HESSP is a collaborative capacity-building initiative designed to equip universities with the knowledge, tools, and shared digital resources necessary to manage multilingualism effectively.

SADILAR RESOURCES

SADiLaR offers a variety of services that support the curation, development, distribution, and maintenance of language resources. These resources are made available through the **SADiLaR Language Resource Repository** as downloadable content through the Language Resource Catalogue and Language Resource Index. https://sadilar.org/en/resources/



This includes:

- Electronic text and speech data (such as domain-specific text collections, wordlists, dictionaries, translation memories and aligned multilingual corpora)
- Multimodal resources
- Tools, applications and platforms that support the processing of data and development of new technologies.

SADILAR TECHNOLOGIES

One of the supporting functions of SADiLaR is providing researchers with easily accessible technologies that can support their research efforts. https://sadilar.org/en/technologies/

Currently, the following technologies are available:

- Corpus Portal
- CTexT NCHLT Web Services
- Autshumato Machine Translation Web Services
- Voyant Tools
- ZulMorph
- Spell Checker for South African Languages (for Office on Windows only)

SADILAR MAKES AN IMPACT IN THREE DOMAINS



Language technology domain: High-level resources and natural language processing tools are developed for use in applications, such as machine translation engines for local languages, automatic speech recognition systems, text-to-speech systems, speech-to-speech translation systems, interactive communication systems, as well as a variety of text-related applications, such as grammar and spelling checkers, and online electronic dictionaries.



Humanities and social sciences domain: Research capacity building is facilitated amongst scholars by promoting the use of digital data, innovative methods, and software tools that enhance research activities, enabling scholars to ask and pursue previously unanswerable questions within their respective disciplines.



Socio-economic domain: Reusable digital language resources are licensed for use in interactive commercial applications in local languages. The nature and use of local African languages are documented as part of a living archive, including documentation of cultural heritage practices within different language communities.

TARGET AUDIENCE



Academic scholars in all domains of humanities and social sciences, as well as in language technologies and computer science.

INTERNATIONAL LINKS



SADILAR is the first centre of its kind in Africa to foster links with researchers and institutions in Sub-Saharan Africa. The Centre promotes existing links with similar entities globally, especially with a major counterpart in Europe, e.g. CLARIN, which is also part of the European Strategic Framework for Research Infrastructures Roadmap.

STRUCTURE OF SADILAR

SADILaR is a multi-partner entity, with the North-West University (NWU) functioning as **host as well as hub of a network of linked nodes**, comprising:



University of Pretoria (Department of African Languages); https://sadilar.org/ en/up-node/

University of South Africa

(Department of African Languages); <u>https://sadilar.org/unisa-node/</u>



North-West University (Centre for Text Technology); <u>https://sadilar.org/en/ctext-node/</u>

CSIR (HLT Research Group); https://sadilar.org/en/csir-node/





Inter-Institutional Centre for Language Development and Assessment (ICELDA); https://sadilar.org/en/icelda-node/ and

Child Language Development Node (Department of General Linguistics at Stellenbosch University) https://sadilar.org/en/stellenbosch-university/



It is foreseen that the number of nodes will increase in the future as new functional nodes develop. Learn more about SADiLaR nodes and their projects.

NB: All data and software tools are made freely available for research purposes. SADiLaR incorporates the language resource management agency (RMA) and focuses on the creation, management, and distribution of digital language resources, as well as applicable software related to all official languages of the country.

SADILAR FLAGSHIP PROGRAMMES

ESCALATOR (Digital Humanities & Capacity Development)





Hub: SADiLaR

Established: 2019

Programme leaders: Prof. Menno van Zaanen & Ms. Jessica Mabaso

Contact: <u>escalator@sadilar.org</u>

Website: https://sadilar.org/en/escalator/



Overview:

ESCALATOR is SADiLaR's flagship capacity development programme, designed to grow an inclusive and active South African community of practice in Digital Humanities and Computational Social Sciences.

Through strategic partnerships and tailored training initiatives, ESCALATOR provides researchers, students, and educators with the skills and resources needed to engage with digital and computational methods in humanities and social sciences research.

ESCALATOR moves beyond the limitations of ad hoc activities that often create initial excitement but leave participants feeling neglected and disempowered once the event concludes. Instead, ESCALATOR builds sustainable communities through ongoing engagement, mentorship, and structured pathways for skills development.

Aims:

- Develop digital champions and leaders.
- Build lasting skills and digital confidence.
- Foster networks for collaboration and learning.
- Align with national and international digital initiatives.

Key components:

- DH-IGNITE Regional Events
- Digital Champions Initiative
- Stakeholder Map



SADILAR NWU DH OER Programme







Hub: SADiLaR **Coordinators:**

Prof. Dorothy Laubscher (NWU UNESCO Chair)

Ms. Jessica Mabaso (ESCALATOR Programme Coordinator)

Timeline: March 2025 - January 2027

Contact: <u>escalator@sadilar.org</u>

Website: https://escalator.sadilar.org/champions/dh-oer/



Overview:



aims to encourage activism and research focused on the use and creation of OERs for digital humanities at universities across South Africa.

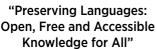
Aims: •



- Train DH champions
- Encourage open pedagogy
- Support and fund the creation and adaptation of OERs in digital humanities
- Build a network of digital humanities researchers and practitioners in South Africa
- Promote equitable, localised access to knowledge
- Strengthen digital scholarship in the humanities
- Contribute to the transformation of teaching and learning through open practices

SWiP Project (Second Phase)















Established: September 2023

Project leaders: Ms. Nomsa Skosana & Ms. Lebogang Boemo

Duration: November 2024 - October 2027

Contact: <u>swip@sardilar.org</u>

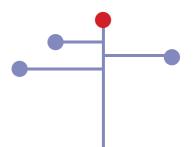
Website: https://sadilar.org/en/swip/



Overview:

SADiLaR-Wikipedia-PanSALB (SWiP) is a collaborative initiative by the South African Centre for Digital Language Resources (SADiLaR), the free encyclopaedia (Wikipedia), and the Pan South African Language Board (PanSALB).

The SWiP project was officially launched on the 22nd of September 2023, at the University of South Africa, Pretoria. Overall objectives of the projects are to bring together communities of language practice, such as universities, language directorates, and language entities, practically to advance and celebrate the use of South African Languages and to encourage language communities of practice to actively participate in contributing to the free encyclopaedia (Wikipedia).



Aims:

- Encourage language communities of practice to actively participate in contributing content to the free encyclopaedia (Wikipedia).
- Improve the representation of South African languages on Wikipedia.
- Promote the digital preservation of South African languages
- Train and capacitate content contributors and trainers on Wikipedia

Activities:



- Expand collaborations with additional universities and organisations to enhance academic partnerships.
- Continue outreach initiatives by conducting workshops and training programs at a broader range of institutions.
- Organise edit-a-thon events in which participants collaboratively edit and create Wikipedia content to improve the representation of South African languages.
- Facilitate calls for Language Community Projects that promote and financially support community-driven initiatives aimed at the preservation and promotion of local languages on digital platforms.









Higher Education Sector Support Programme (HESSP)

Hub: SADiLaR

Established: 2024

Programme leader: Prof. Tobie van Dyk

Contact: *tobie.vandyk@nwu.ac.za*



Overview:



The design of SADiLaR's Higher Education Sector Support Programme (HESSP) is directly informed by the eight most urgent challenges identified in the 2023 National Language Resources Audit. These areas represent sector-wide priorities essential for the successful implementation of the Language Policy Framework for Public Higher Education Institutions.

The Higher Education Sector Support Programme is aimed at building capacity, enhancing project execution, and fostering resources and infrastructure development across South African universities.

Focus areas:



- Expertise and support in language planning and management
- Monitoring and reporting on language policy implementation
- Co-ownership and co-responsibility through collaboration and shared funding
- Academic language development and literacy
- Training in multilingual pedagogies
- Terminology development and dissemination
- Addressing the hegemony of English in academic contexts
- Improving the conversational-level language proficiency of university staff

LwimiLinks Platform



Hub: SADiLaR

Established: 2024

Platform coordinators: Dr. Friedel Wolff & Dr. Michelle Goosen

Contact: info@sadilar.org

Website: https://lwimilinks.sadilar.org/



Overview:

LwimiLinks is a national open-source platform for the coordination of multilingual terminological resources and projects in South Africa. The terminological information can be consulted by a variety of users, e.g., students, academics, and language practitioners. Authoritative bodies and individuals are encouraged to submit their resources and information on their projects in terminology that will be made available on LwimiLinks' platform.



- Provide a national open-source platform for the coordination of terminological information in the 12 official languages of South Africa. Users will be able to consult this platform to understand the fundamental terms of different subject fields and domains in their strongest language.
- Prevent the duplication of subject fields and domains and the proliferation of terms. This will ensure that scarce resources can be utilised to develop new terminology in the different official languages for other subject fields and domains.
- Promote accessibility and visibility of terminological resources and projects.

Xitsonga Voyant Tools Corpora Project

Hub: SADILaR

Established: September 2023

Project leader: Dr. Respect Mlambo

Timeline: October 2024 - September 2025

Contact: Respect.Mlambo@nwu.ac.za

Website: https://service.sadilar.org/vovant/



Overview:



This project aims to develop monolingual corpora using Nthavela newspapers published between 2012 and 2023. Nthavela is an indigenous African language newspaper written in Xitsonga, founded by Dunisani Ntswanwisi under Nhluvuko Media Communication.

The raw newspaper data includes elements such as images, dates, and page numbers that are irrelevant to the corpus. As part of the project, the newspapers will be cleaned to retain only the relevant text.

The extracted text will then be converted into a structured corpus and integrated into Voyant tools, ensuring that Xitsonga becomes one of the languages supported by the platform. The South African Centre for Digital Language Resources (SADiLaR) oversees the project's implementation and ensures all processes are executed effectively.



- Develop a Monolingual Xitsonga Corpus
- Create a structured corpus by extracting and refining content from Nthavela newspapers (2012-2023).
- Preserve and Promote Indigenous African Languages
- Enhance the representation of Xitsonga in digital tools to support language preservation and access.
- Enhance Voyant Tools with Xitsonga Integration
- Ensure Xitsonga is among the languages available on the Voyant platform for improved linguistic accessibility.

SADILAR NODE PROJECTS

Extended Digitisation of Language Resources

Node: University of Pretoria (Digitisation Node)

Project leaders: Prof. DJ Prinsloo & Prof. Elsabé Taljard

Timeline: April 2025 - March 2026

Contact: danie.prinsloo@up.ac.za, elsabe.taljard@up.ac.za

Website: https://sadilar.org/en/up-node/



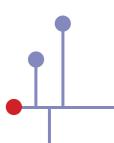
Overview: (



Ongoing digitisation of 11 of South Africa's official languages, including texts, audio, audio-visual and born-digital material.



- Focus on the preservation of invaluable language (and cultural) resources for the African languages by digitising textual, audio, and audio-visual material, and providing language communities with access to these digital resources via the SADiLaR repository.
- Digitised content delivered by the node to form the basis for HLT and NLP applications such as machine translation systems, writing support tools. compilation of (electronic) dictionaries, and text production verification tools for the African languages. It also forms the basis for any kind of corpus-based research, whether it be linguistic, lexicographic, or terminological research.
- Increase the status of these languages as languages of higher functions with an end goal of empowering speakers to exercise their citizenship in their strongest language and increase these languages' digital footprint.
- Share the minimum quality, standards, and evaluation information developed for each modality with other digitisation initiatives.



Early Language Development Norms

Node: Child Language Development Node (SU)

Project leader: Prof. Heather Brookes

Timeline: October 2024 – September 2027

Website: https://sadilar.org/en/stellenbosch-university/



Overview:



Building human and research capacity through obtaining early language development norms for 8-to-30-month speakers of South Africa's 11 spoken official languages.

Objectives:



- Obtain norms for language development using the MacArthur-Bates Communicative Development Inventory (MB-CDI) that the Node has adapted, piloted, and validated for South Africa's 11 spoken languages.
- Develop and pilot an accessible platform (web/app-based) of the MB-CDI for all South African parents to provide data on their children's language development.
- Build a corpus of audio and transcribed recordings of natural language data from children in all South African languages.
- Build a repository of language development data from all South African languages on the SADiLaR website for linguists, developmental psychologists, speech-language therapists, early education specialists and health professionals to utilise for research and intervention.
- Build external partnership networks with researchers across South African universities to grow scientific work on child language development in our underresourced languages from different disciplinary perspectives.

Spelling Checkers for 10 SA Languages

Node: NWU - Centre for Text Technology (CTexT)

Leader: Prof. Martin Puttkammer

Timeline: March 2022 - December 2027 Contact: <u>martin.puttkammer@nwu.ac.za</u>

Website: https://sadilar.org/en/spelling-checkers/



Overview:



Packaging of all 10 of the spelling checkers and hyphenators for South African languages as one installer. This installer is available to any person or business for download from the SADiLaR website, free of charge.

- Package all 10 spelling checkers as one installer
- Avail spell checker resources freely and openly from the SADiLaR website

Linguistic Resources & Core Technologies for South African Languages

Node: NWU - Centre for Text Technology (CTexT)

Team: Prof. Martin Puttkammer, Dr. Tanja Gaustad, Dr. Roald Eiselen, Mr. Frederic Koen

& Ms. Sunny Gent

Timeline: April 2024 - March 2027

Contact: *martin.puttkammer@nwu.ac.za* **Website:** https://sadilar.org/en/ctext-node/

Overview:



Data is the key to the most recent developments in the field of Human Language Technology (HLT) and Machine Learning, e.g., Deep Learning. The South African languages have always been under-resourced due to various reasons. With the conversion of data for 9 South African languages and extra annotation of data for 10 South African languages, this project makes a significant contribution in the availability of high quality linguistically annotated resources for the development of HLT technologies, but also for the further study of South African languages by (corpus) linguists, digital humanists, etc

Making the latest core technologies available as open-source Python modules as well as integrating them in the National Centre for Human Language Technologies (NCHLT) web API for easy access for users with less technical backgrounds will hopefully lead to an increase in research and development on South African languages. This project builds on previously funded projects on linguistic resources and core technologies carried out by CTexT.

- Extend the available part-of-speech (POS) tagged and lemmatised data for South African languages.
- Convert previously annotated data for 9 South African languages to a uniform tag set as well as annotate extra data originating from different text types, i.e., news, fiction, academic, for 10 South African languages.
- Build improved core technologies, made available as open-source Python packages and integrated in the NCHLT web API for easy access and use for researchers, also outside of HLT.
- Convert the part-of-speech-enriched and lemmatised corpora for the four
 official South African languages with a conjunctive orthography, i.e., isiNdebele,
 isiXhosa, isiZulu, and Siswati, as well as for the five disjunctively written
 languages, i.e., Sesotho sa Leboa, Sesotho, Setswana, Tshivenda, and Xitsonga.
- Extend the available part-of-speech tagged data for 10 South African languages (disjunctive, conjunctive, and Afrikaans) with different types of texts.

Enabling Localised Language Technology Applications Phase II: Developing Nguni computational grammars and resources

Node: The CSIR Voice Computing Research Group: Speech Node

Leader: Dr. Laurette Marais

Timeline: April 2023 - March 2026

Contact: Imarais@csir.co.za

Website: https://sadilar.org/en/csir-node/



Overview:



The purpose of this project is to use the existing isiZulu Grammatical Framework (GF) resource grammar to not only extend computational resources for isiZulu but also to bootstrap two new resource grammars within the Nguni language family. namely isiXhosa and Siswati, thus enabling the development of similar computational resources for these languages.



- Extend isiZulu grammar.
- Bootstrap grammars for isiXhosa & Siswati.
- Build core lexical and syntactic resources.
- Enable the development of similar computational resources for indigenous languages.

Phase 3: Harvesting existing sources of speech data for HLT development in South Africa

Node: The CSIR Voice Computing Research Group: Speech Node

Leader: Dr. Jaco Badenhorst

Timeline: April 2024 - March 2027 **Contact:** *ibadenhorst@csir.co.za*

Website: https://sadilar.org/en/csir-node/



Overview: —



Significant progress has been made in developing the language resources required for speech technology development over the last decade. Despite these efforts. however, the South African languages remain under-resourced compared to many other languages. While recent studies have shown some success in utilising resources from well-resourced languages in conjunction with resources from under-resourced languages to develop speech technologies, data in the target language remains important for successful technology development. This project aims to harvest and curate speech data for 10 official languages to support technology development.

- Harvest and curate speech data for 10 official languages to support technology development.
- Harvest and curate speech data for 10 official languages to support technology development.
- Identify potential sources of spoken audio (Sepedi, isiZulu, Sesotho, and isiXhosa)
- Design and implement data-capturing tools and procedures for these languages.
- Develop a corpus of transcribed speech data from existing datasets for these four languages.
- Develop data processing tools or applications of existing tools for these four languages.
- Curate, package, and release the data to SADiLaR for speech technology development purposes in South Africa.

African Wordnet and Multilingual Literary Terminology Development

Node: UNISA Node (Department of African Languages) **Leaders:** Prof. Stanley Madonsela & Ms. Marissa Griesel

Timeline: March 2023 - March 2026

Contact: madonfs@unisa.ac.za, marissa.griesel@nwu.ac.za

Website: https://sadilar.org/en/unisa/









- Expand the African Wordnet (AfWN) with terms commonly used in the South African context in the form of additional synsets, as well as expansion to include Afrikaans in the project environment.
- Include definitions for existing synsets in the African Wordnet (AfWN) where these were not added previously.
- Investigate the possibility of including South African Sign Language in the African Wordnet (AfWN).
- Expand the Multilingual Linguistic Termbank (MLT) to also include literary terms;
- Foster collaborative research and development so as to gather variations of terms for the multilingual termbank used across higher education institutions:
- Create awareness of these resources; and
- Upskill interested parties in the development, quality assurance, and application of the language resources developed in this project and digital humanities as a whole.



Towards Digital Language Resources for South African Sign Language

Nodes: Child Language Development Node (SU), UNISA Node (Department of African Languages)

Project leaders: Mrs. Marissa Griesel, Prof. Heather Brookes & Prof. Frenette Southwood

Project duration: April 2025 – May 2026

Contact: marissa.griesel@nwu.ac.za, heatherbrookes@sun.ac.za;

fs@sun.ac.za

Website: https://sadilar.org/en/stellenbosch-university/



Overview:



This pilot project aims to expand the availability of digital language resources for South African Sign Language (SASL). The initiative will connect with diverse SASL stakeholders in collaboration with the Child Language Development Node of SADiLaR and HandLab at Stellenbosch University, Importantly, the project is co-led by members of the Deaf community, ensuring community-centered development and inclusivity.

Aims: •



- Identify the needs for SASL resources through stakeholder engagements and the development of a Community of Practice.
- Convert Handlab SASL content from DVD format into a Learning Management System (LMS) format using SADiLaR infrastructure.
- Provide base-level, limited interactive access to SASL signs via SADiLaR infrastructure.
- Ensure project outputs are openly licensed (CC-BY), unless explicitly stated otherwise.
- Establish connections with the SASL community and identify key stakeholders for setting requirements for a national Sign Bank.
- Work through well-connected Deaf experts and community leaders to ensure authentic representation.
- Build on existing stakeholder work, including PanSALB, SASL Indabas, and Commissioned DSAC Reports on SASL.
- Conduct multimodal interactions to establish the technical, linguistic, and social requirements of a Sign Bank.
- Migration of existing resources into digital formats, increasing accessibility.
- Strengthened collaboration between researchers, community members, and language development institutions.
- Enhanced visibility and availability of SASL resources within South Africa's digital ecosystem.

Reducing the Educational Achievement Gap through Community-Led Technology (REACT):

"Enhancing Early Language Development in Under-Resourced Environments"

Node: Child Language Development

Leaders: Prof. Heather Brookes, Prof. Frenette Southwood, Dr. Nicky Dawson, Dr. Shelley O'Carroll, Prof. Marcel Dunaiski, Prof. Bill Tucker, Dr. Laurette Marais, Prof.

Langa Khumalo

Timeline: January 2026 - ongoing **Contact:** heatherbrookes@sun.ac.za

Website: https://sadilar.org/en/stellenbosch-university/



Overview:



The REACT project addresses the critical challenge of under-resourced languages in South Africa and their impact on early childhood language development and educational achievement. By leveraging Human Language Technologies (HLTs) and community-led approaches, the project aims to enhance early language development (ages 0-3) starting with isiXhosa- and isiZulu-speaking communities, ultimately reducing educational disparities and contributing to multilingual equity.

Aims:



REACT aims to build a sustainable ecosystem where technology and community knowledge converge to promote linguistic justice, early childhood learning equity, and scalable, evidence-based interventions for under-resourced languages globally, with the following expected outcomes:

- Community-Driven Digitalization: Enable community-led digital collection and management of language development data.
- **Tool Development:** Create linguistically and culturally appropriate digital tools to assess and strengthen early language development.
- **Community Empowerment:** Foster family and community engagement in child language learning through inclusive technology.
- Policy Engagement: Collaborate with policymakers to inform systemic change within the Early Childhood Development (ECD) sector.

- **Sustainability:** Build long-term digital communication and collaboration systems among all stakeholders.
- Scalability: Develop a replicable model of HLT-driven language development applicable to other South African languages and global under-resourced contexts.

Community and Policy Partners:

- NGOs and community-based organizations

Grassroots caregivers and ECD practitioners

- Advocacy networks such as Accelerator Hold My Hand
- Government departments involved in ECD and digital innovation

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CONTACT DETAILS

