



SignLab

India, Indonesia, China

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SignLab AS

165 Block D, Roger Dudman Way,
Oxford

OX1 AF1
United Kingdom

+47 48141881

SignLab.co

endre@SignLab.co

Confidentiality

The reader acknowledges that any information provided by SignLab in this business plan, other than information that is in the public domain, is confidential in nature, and that any disclosure or use of the same by the reader may cause serious harm or damage to SignLab. **Therefore, we ask that the reader agrees not to disclose any information without written permission from SignLab.**

I. Executive Summary

1. Company Purpose

Making sign language more accessible and affordable, while improving learning outcomes.

Challenge

Parents to children who are severely hard of hearing or deaf need to learn sign language to communicate. Today, only 1 in 4 parents to deaf children in high-income countries manage to learn sign language. In low-income countries, it is believed to be fewer than 1 in 10.

- **32 million** deaf and hard of hearing children need sign language to communicate worldwide
- Parents want to learn sign language, but there is a **lack of access** to sign language learning programs.
- Like any language, sign languages have their own vocabulary, syntax, and grammar. Sign language is **not** international. Most countries have their own unique sign language.
- As visual languages, sign languages cannot be taught in the same way as spoken languages. Very few learning resources are sufficiently adapted to take this into account.
- If parents are unable to facilitate normal linguistic development in the early years, their child will lag behind their peers in school. Most never catch up.
- Sign language fluency is a major predictor of academic success.¹ Deaf children to Deaf parents develop language at the same rate as hearing children to hearing parents.²
- 90% of deaf children in developing countries are out of school³
- Deaf children are more than twice as likely to be abused as hearing children.⁴ Young deaf women and girls face the most acute challenges. They are at a greater risk of child marriage, sexual exploitation, and the negative impacts of a lack of sexual and reproductive health education.

¹ Iva Hrastinski, Ronnie B. Wilbur, Academic Achievement of Deaf and Hard-of-Hearing Students in an ASL/English Bilingual Program, The Journal of Deaf Studies and Deaf Education, Volume 21, Issue 2, April 2016, Pages 156–170

² Mitchell, Ross E and Michael A Karchmer. "Chasing the Mythical Ten Percent: Parental Hearing Status of Deaf and Hard of Hearing Students in the United States." Sign Language Studies, vol. 4 no. 2, 2004, p. 138-163.

³ "Children with disabilities face the longest road to education"

<https://www.globalpartnership.org/blog/children-disabilities-face-longest-road-education>

⁴ Education Committee - Children first: the child protection system in England

<https://publications.parliament.uk/pa/cm201213/cmselect/cmeduc/137/137vw42.htm>

2. Solution

An international learning platform for sign languages

SignLab has developed a learning platform that is fully digital and can incorporate new sign languages within weeks. SignLab's sign language lessons can be accessed anywhere, online or offline, by anyone with a mobile phone or computer.

The platform makes it fun and easy to learn through gamification and timed encouragement. To ensure that the user gets the most out of every learning session, our review functionality incorporates an AI that remembers which signs you are about to forget. The AI then designs a learning session that is tailored to the individual user's needs. Integrated videos help the user understand these languages focused on the visual and gestural. Combined with the AI technology, this ensures that signs are not only learnt, but retained over time.

In addition, our curriculum is designed in cooperation with sign language organizations and teachers in each language, to address the specific demands of each language.

The platform launched in open beta in Norway in November 2018. Feedback from parents and sign language teachers gave it a NPS of +64. The platform saw exponential growth with an average growth rate of 276% each month for the first three months (Nov-Feb). This growth all came through word-of-mouth recommendations; nothing was spent on marketing. **Today, the platform is the most used sign language learning resource in Norway.**

3. Expansion: India, Indonesia and China

SignLab's growth and impact will primarily come from three sources:

1. Families to someone who is deaf or severely hard of hearing (B2C: Business to Consumer)
2. Special education schools, sign language classes and teachers (B2E - Business to Educational Organization)
3. Enterprises/governments (B2G: Business to Government/B2B - Business to Business)

Families to someone who is deaf or hard of hearing

It is estimated that more than 214.5 million are either deaf or hard of hearing in India, Indonesia and China.⁵ It is estimated that 8.8 million of these are children. More than 17 million parents need to learn sign language in order to communicate normally with their own child. This is an underserved vulnerable group where our platform has shown proven demand and has a huge possibility for creating positive impact.

⁵ WHO 2018

https://www.who.int/docs/default-source/documents/world-hearing-day-2018-infographic.pdf?sfvrsn=54cce8d_12

Special education schools and sign language classes

Our findings show that all three countries have too few special education schools and traditional sign language classes to cover demand. However, in areas with good access to sign language schools, our platform functions as an advanced textbook. This greatly improves learning outcomes since their current learning materials are either non-existent or paper-based. Given that many signs incorporate movement, videos are much better suited to teaching signs than diagrams in a book. Learning sign language from a book is like reading a book to learn to dance - it does not work.

Businesses and corporate social responsibility

As a part of a business inclusion and corporate social responsibility (CSR) effort some businesses are looking to hire deaf workers and train their workforce in sign language. In India and Indonesia, businesses are required by law to have a certain percentage of their employees made up of people with disabilities. SignLab will provide training in communication and sign language for these companies.

The education sector in general is only 3% digitized. The special education sector is even less so. The opportunity this represents is why the sector has seen doubling of VC and PE investments in 2018 from 2017, and this is expected to increase further in the 2020s.

4. Core Team

Endre Olsvik Elvestad - CEO

An expert on the use of VR in teaching sign language, thanks to his Masters in Computer Science from NTNU, Endre has worked as Advisor to the Norwegian Minister of Education and Research on the use of technology in education. Funded SignLab in 2017 and has been its CEO since.

Aileen Bui - COO

A former product manager for FPT Software, Aileen started a primary school for underprivileged children in Ho Chi Minh City, Vietnam, before going on to complete her MBA at Missouri State University. Lien has been SignLab's COO since 2017.

Tor Økland Barstad - CTO

Tor holds a Masters in computer science from NTNU, where his research focused on the use of AI in understanding natural language. Previously, he co-founded Corsane, an EdTech aggregation platform. Tor has been SignLab's CTO since 2017.

Ingrid Strand - Course Lead

A native speaker and qualified teacher of Norwegian Sign Language, Ingrid produces «Minikurs i Tegnspråk», the most popular YouTube channel for Norwegian sign language with over 200,000 views. Ingrid has been SignLab's lead course developer since 2018.

Local Partners

China

Dr Jun Hui Yang grew up deaf in China and currently works as a lecturer in Deaf Studies and Chinese Sign Language (CSL) at the University of Lancaster. Since the 90s, Dr Yang has worked to champion CSL and Deaf rights in China, including leading and evaluating development projects for deaf and hard of hearing people.

Dr Yang and her team in Beijing contribute cultural and linguistic expertise, in addition to being our primary content developers. The broader team consists of two deaf sign language teachers and a videographer. Together we can already show results in the form of a fully functioning prototype in Simplified Chinese and CSL.

Indonesia

Wonder Koding was established as a vocational school for deaf people in Indonesia by Yudhi Rahadian in 2018. Rahadian is himself Indonesian and father to a deaf daughter. He currently lives and works in Germany and has experience in doing business both in the EU and in Indonesia. Since starting in 2018 with one school, Wonder Koding now comprises four schools spread across Indonesia.

Wonder Koding contributes cultural and linguistic understanding, as well as content creation and marketing for Indonesia. Together we can already show results in the form of a beta version that is currently being tested by real users in target conditions in Indonesia.

India

Smileys India works towards greater awareness and inclusion of deaf and deafblind people in India. Since 2010 one of their main initiatives has been to teach Indian Sign Language (ISL) in rural areas with deaf children. The founder, Vidushi Jayaswal, was awarded the Yuva Chetana inclusion Award in 2015 for the organization's work and impact.

Smileys India are content creators for ISL, as well as leading our marketing in India. Together we have developed a fully functioning prototype in written Hindi and English teaching Indian Sign Language.

II. Impact

Deafness indicates a loss of hearing. The loss of a physical ability. Deaf and hard of hearing people want, and have the potential to, participate in society at the same level as their hearing peers.

However, in working towards realizing this potential they face serious, sometimes insurmountable, challenges. Lack of accessibility, discrimination, stigmatisation and abuse have all been documented as common experiences amongst deaf people.^{6 7} In low and middle income countries many are at acute risk of being subjected to severe negative social control, child marriage, sexual exploitation, and forced labour.^{8 9}

This project will have a measurably positive impact on equality, education, workforce participation and general well-being in the world's three largest deaf populations. We will achieve this by reducing significant barriers that deaf and hard of hearing people face throughout their lives - from birth to adulthood.

At birth we will inform parents about best practice and give them access to learning sign language. As the child grows, this scope expands to the local community. By educating the local community about deafness and teaching simple signs, we can reduce the stigma that often comes attached to being different. In school and in the workforce, we help teachers and colleagues learn sign language, as well as giving them guidance on how to best foster inclusion and increase accessibility for their deaf pupils and staff.

There is no easy fix to changing how society thinks and deals with deafness and disability - changing the mindset of millions of people is not done overnight. However, with this free digital platform, SignLab has the potential to reach millions, and to be an effective agent for large scale positive change.

Over the next two years the project is projected to help over 4,1 million people learn sign language in India, Indonesia and China. It will help more than 400 000 families with deaf children to learn sign language and enable them to properly communicate with their own child. These numbers are projected from our real experienced growth in Norway from launch until 18 months post launch. Common for the three countries is that sign language is less established, but at the same time the occurrence of deafness per capita is double that of Norway.

⁶ Bowe, Frank & McMahon, Brian & Chang, Tai & Louvi, Ioanna. (2005). Discrimination, Deafness and Hearing Impairment: The National EEOC ADA Research Project. Work (Reading, Mass.). 25. 19-25.

⁷ Wakeland, Elizabeth & Austen, Sally & Rose, John. (2017). What is the prevalence of abuse in the deaf/hard of hearing population?. The Journal of Forensic Psychiatry & Psychology. 29. 1-21. 10.1080/14789949.2017.1416659.

⁸ Psychology Today: "The Underrecognized Victims of Trafficking: Deaf Women"

⁹ Ashoka: "60-70% of Filipino Deaf Children Have Been Sexually Abused"