



CBSE's Vidya Samiksha Software

# Sagar se Saransh

Establishing and empowering data driven governance at Central Board of Secondary Education

## Central Board of Secondary Education

## Introduction

In its vision for building a future-oriented education landscape, the National Education Policy (NEP) 2020 prioritizes data-driven decision making, data analytics, and data-driven governance. This policy recognizes data as the cornerstone for tracking and monitoring educational activities, enabling continuous improvement. To bridge the gap between data and actionable insights, Dr Antriksh Johri, Director IT & Projects of CBSE conceptualized and developed the ambitious Sagar se Saransh (Squebe) initiative, which aligns with the National Digital Education Architecture (NDEAR) – a government initiative to establish a unified digital infrastructure for education. NDEAR emphasizes the importance of data interoperability and accessibility, creating the foundation for Sagar se Saransh. Prior to Sagar se Saransh, challenges like presence of data in silos and inaccessible information, manual data analysis and inefficiencies, limited visibility and lack of actionable insights, inconsistent reporting and difficulty in monitoring progress, hindered CBSE's ability to leverage data for informed decision-making and optimize educational experiences.

## Objective

To address these challenges and empower CBSE with a robust data analysis system, Squebe was developed with the following objectives:

1. Assimilation of data from various departments in silos at one platform for removal of redundancy
2. **Single source of truth** for all kinds of data related to various programs, initiatives, schools, teachers, students etc.
3. Identify **KPIs** which are directly linked with student performance in Board examination
4. Detailed analysis and visualisations to generate actionable insights and reports for recommendation
5. Interactive visualisations for **actionable insights to trigger responses** across all the levels/departments
6. Provide **personalised recommendation** to schools for performance enhancement e.g., Student-Teacher ratio

The CBSE VSK facility was inaugurated and VSK Software “सागर से सारांश” was launched on 21st Sept, 2023 by Hon’ble Secretary (SE & L), Ministry of Education, Govt of India in the August presence of Chairperson CBSE, Additional Secretary (MoE), Joint Secretaries (MoE), Commissioner KVS, Commissioner NVS, Member Secretary NCTE, Joint Director CIET and other senior officers of MoE.

Thereafter many teams of senior officers from MoE, State & Sister organizations have visited VSK Facility of CBSE and seen demo of Squebe

## Technological Features

Sqube leverages the power of open-source technology to create a robust and scalable data analysis platform. This strategic choice fosters transparency, reduces licensing costs, and fosters a collaborative development community. The platform is built upon open standards and utilizes secure APIs, enabling **seamless interoperability** with existing CBSE systems and future technology advancements.

The system boasts the capability of handling **12 billion+ data points across 450+ Key Performance Indicators (KPIs)**, empowering CBSE with a comprehensive view of the educational landscape. **Real-time data updates** and processing ensure information remains fresh and actionable.

For deeper analysis, **fully interactive dashboards** with **drill-down features** allow users to explore data at granular levels. **Automated insights** generated by the system translate complex data into actionable recommendations, saving time and resources for CBSE officials. The platform caters to a vast network of stakeholders, including **29,000+ schools, 1.25 million+ teachers, and 25 million+ students**, along with multiple CBSE departments. A robust **user access management system** ensures data security and grants access based on user roles and permissions. The platform also tracks user activity, enabling administrators to monitor usage patterns and optimize the system for user needs.

To ensure accessibility for all users, Sqube offers open data access for specific datasets, while maintaining **secure data practices** for sensitive information. **Responsive design** guarantees a seamless user experience across devices and browsers. By adopting **open-source principles** throughout its development (built on, built as, and using open standards), Sqube fosters future innovation and ensures long-term **sustainability**.