



ST ELECTRONICS (TRAINING & SIMULATION SYSTEMS) CONSORTIUM'S SOLUTIONS FOR BEACON PRIMARY SCHOOL: BEACON WORLD

Members

- Addest Technovation Pte Ltd
- FiF Technologies LLP
- Microsoft Singapore Pte Ltd
- Sky Media Pte Ltd
- Temasek Polytechnic
- Vantage Portal Systems Pte Ltd

The Solution

The proposal for Beacon Primary School is centred on an interactive 3D Virtual Learning Environment called Beacon World. Learners can immerse in 3D learning environments that challenge their understanding and deepen their learning. This environment is designed to support the school's customised curriculum and key programmes to develop pupils holistically. Beacon World positions Beacon Primary as a forerunner in the use of 3D immersive learning environments as it features the integration of the 3D environment with the school's learning management system, creating a unique and innovative learning experience for Beacon students.

The proposal's main focus is to develop a 3D learning environment with a variety of virtual learning tools and spaces. This enables Beacon Primary School to adopt the use of virtual environments in education, integrated with a learning management system to support teaching and learning activities.

This 3D learning environment will allow teachers, students, parents, as well as the public community to have personalised avatars interacting with one another and accessing the following features:

- **Creative Studio:** A tool designed to support media and arts programmes in the '3D world' including features to allow for creation of a set of pre-drawn props, characters and sounds as well as editors to generate voice, narration and to perform simple video editing.

- **Funky Gallery:** A tool that allows teachers to showcase students' media creations such as digital art pieces, while allowing for peer feedback and review. Key features include easy manoeuvring around virtual 3D gallery, re-packaging of creative pieces via thumbnail creation with background music as well as channels to feedback and review on the creations to be collated.
- **Live Arena:** This is a virtual space that comprises a public area and additional unique virtual spaces where avatars can meet, interact and exchange opinions and experiences through a set of communication tools. For example, pupils can engage in debates, public speeches, broadcasts and live audio communication, and parents can learn from teachers teaching methods and syllabuses.
- **Exploratory Laboratory:** This 3D world simulates scientific scenarios and problems that are physically not possible to be re-created. Students utilise online resources and are tasked with missions to solve based on research and problem solving activities.
- **Interactive I-MAX:** This set of tools help teachers to design and create role-playing exercises that aim to make students study their characters, topic background and issues for each topic/scenario they are immersed in.

Contact ST Electronics (Training & Simulation Systems) Pte Ltd

Ms Sharon Ng
Senior Executive (Marketing Communications)
24 Ang Mo Kio Street 65, Block D, Level 4
Singapore 569061
Tel: (65) 6413 1454
Fax: (65) 6482 6162
Email: sharonng@stee.stengg.com
Website: www.stee.stengg.com

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Beacon Primary School: FutureSchool Programme Highlights

Key Focus – Envisioning the Future, Varied Perspectives
Beacon Primary leverages technologies to bring about engaged learning and to create a stimulating learning experience for pupils. Pupils will extend their learning beyond knowledge, skills and values to grow the ability to envision for the future and contribute to make a difference. Highlights include the diverse digital learning spaces and innovative key programmes.

Diverse digital learning spaces

Learning spaces that support Beacon's key programmes to extend pupils' learning experiences include technology-enabled physical space and 3D virtual learning environments.

Technology-enabled Physical Space

The infocomm technology enabled classrooms and learning spaces with flexible furnishings enhance mobility, multiple interaction modes and collaboration. These physical learning spaces are expanded with wireless connection and enriched with one-to-one connectivity to Beacon World and online resources to optimise pupils' learning.

3D Virtual Learning Environment

An integrated web-based learning environment called Beacon World is being developed in collaboration with industry partners to enrich learning using the following features:

- **3D virtual simulations:** Pupils will be able to create and showcase their digital products as well as explore ideas and abstract concepts in simulated environments to nurture their creativity and foster inquiry skills, thus deepening their learning in new contexts.
- **Advanced web-based collaboration:** Pupils will be able to collaborate online for brainstorming sessions, project work, peer review and peer editing.

- **One-stop school portal functionalities:** The integrated platform will support pupil data management and monitoring, online communication with parents, online searches, assessments (e.g. online testing and feedback), learning resources, and learning applications (e.g. server-based software applications).

Key programmes

The school will deliver its customised curriculum through three key programmes to develop pupils holistically:

- **Media and Arts Channel:** This programme seeks to develop language abilities, aesthetic appreciation, global and cultural awareness and a sense of belonging to the community through learning languages, art, music and social studies. Through integrating different disciplines in this programme, pupils will develop competencies in creatively communicating their ideas, feelings and experiences in a variety of digital media.
- **Investigative Channel:** This programme seeks to develop inquiry and reasoning skills through the three main pillars in the Investigative Channel – investigative pedagogy, problem solving, and integration of Mathematics and Science contents. Pupils will develop their curiosity, innovative vision and problem-solving abilities through digital tools such as digital modelling and games, in authentic contexts.
- **Wellness Channel:** This programme seeks to develop the skills, values and attitudes for pupils to manage their own learning, emotional development, social interactions and physical well-being. It is designed to cater to pupils' holistic well-being through Physical Education, Health Education, Civics and Moral Education, and Pastoral Care lessons.