knowBelle. by Esthemedica
Know Your Skin.

NUS National University of Singapore
Institute for Engineering Leadership
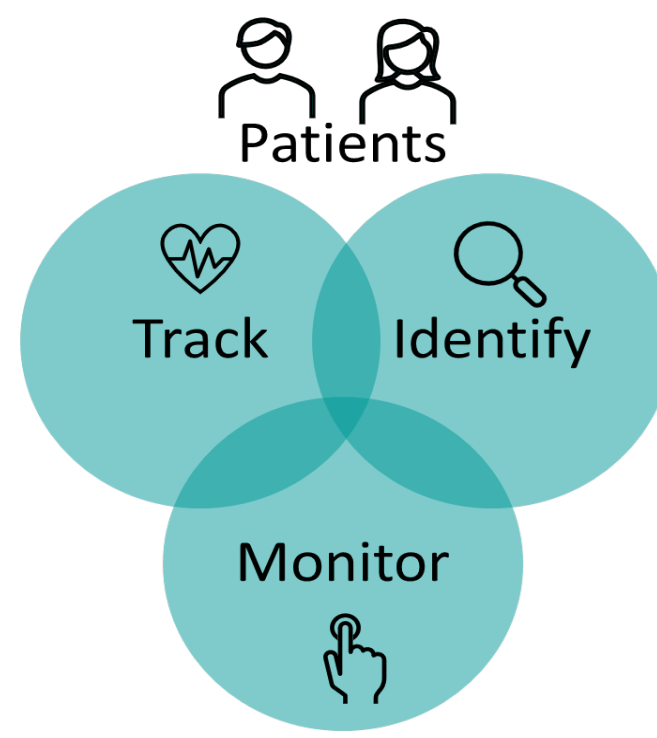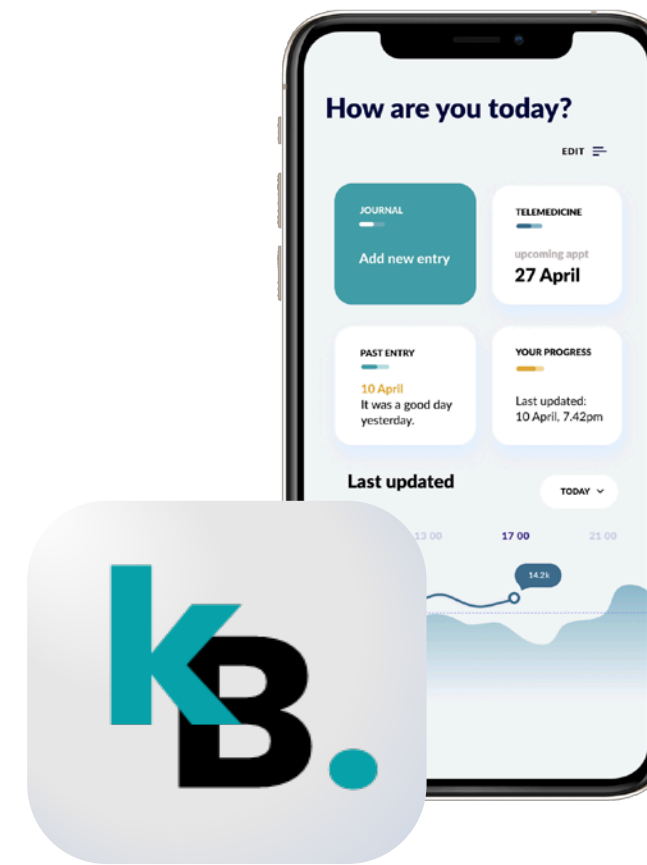College of Design and Engineering

Problem Statement

Due to episodic nature of skin issues, patients/ consumers are unable to confidently identify triggers, track, or monitor the overall progress of their skin conditions quantitively.
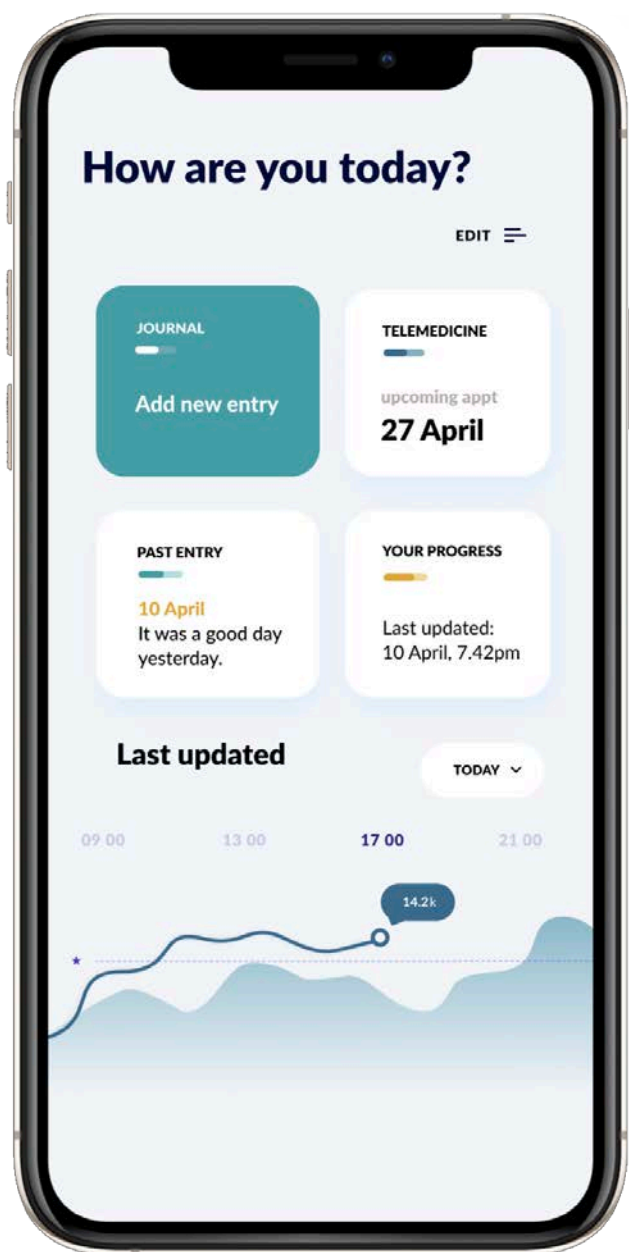
Patients

Track · Identify · Monitor

Solution

An ecosystem centred around our app, knowBelle.

An app that connects
- existing in-built apps (Y3)
- peripheral devices launches (Y3)
- teleconsulting (Y5)

Technology

App

Function	Technology	Outcome
Journaling	Name Entity Recognition	Diet
	Sentiment Analysis	Mental Wellness
Phone camera	Convolution neural network	Descriptive measurements
GPS	Weather	Environment
		Moisture Levels

AI Algorithm to predict flares

First Peripheral Device

AURETEK Confocal Raman Spectroscopy[1]

100μm depth
Comprehensive RAMAN- based technology.
Know your skin inside out.

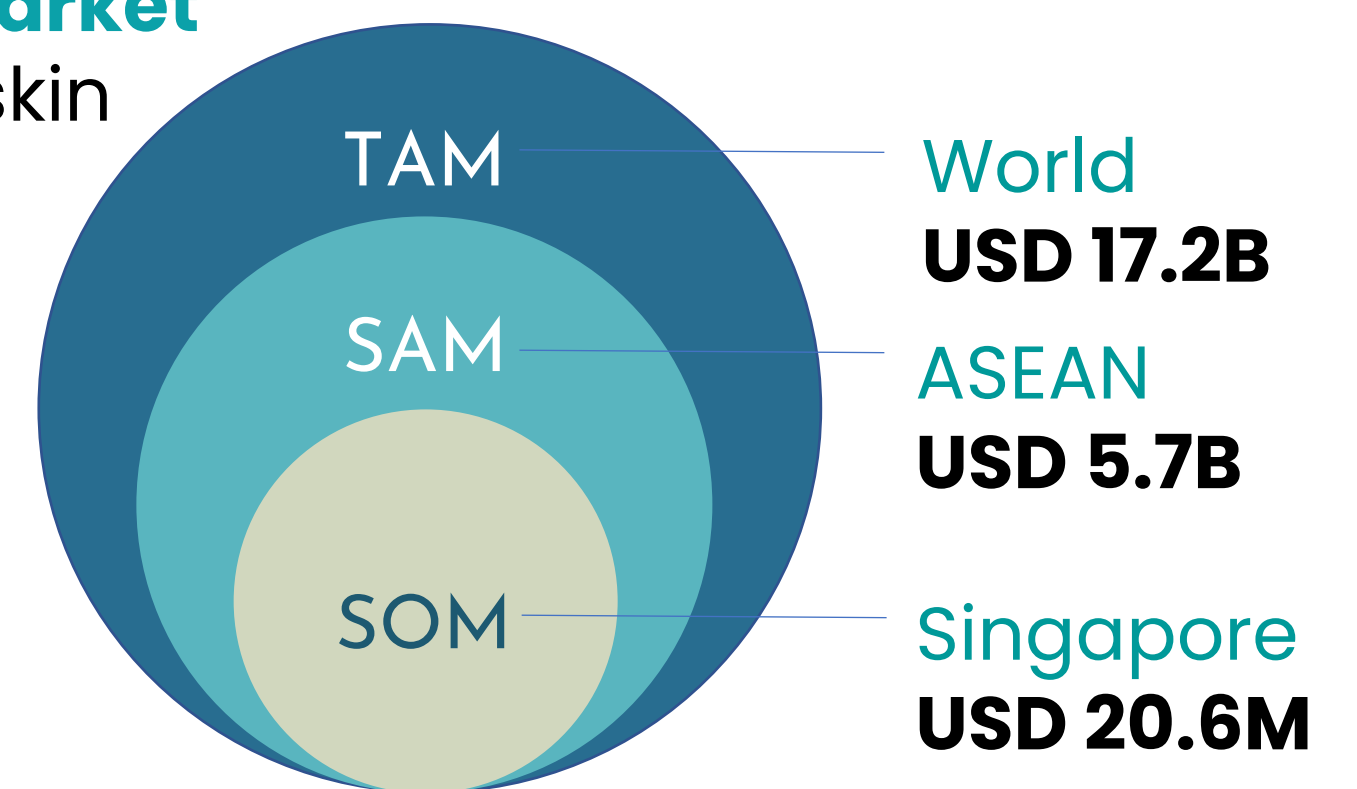Institute of Bioengineering and Bioimaging
IBB

Value Proposition

Empowering the people with quantitative information about their skin health for a better understanding towards personalised healthcare and tracking.

Competition

Auto-Sync (Weather, stress, activities)

All types of skin condition tracked

Self Assessment Only

AI Assessment

(All conditions)

Multimodal heuristics prediction algorithm

Predicts Flares

(Eczema)

(Eczema & Psoriasis)

(Atopic Dermatitis)

Teleconsulting feature (by Year 5)

Additional insights from peripheral devices
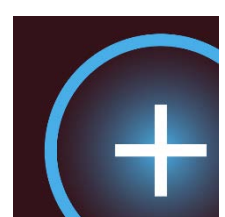
Manual Inputs Only (Weather, stress, activities)

Market Size

Target Market
Chronic skin disorders

TAM — World **USD 17.2B**
SAM — ASEAN **USD 5.7B**
SOM — Singapore **USD 20.6M**

Financial Projections

REV · EBITDA · PROFIT MARGIN
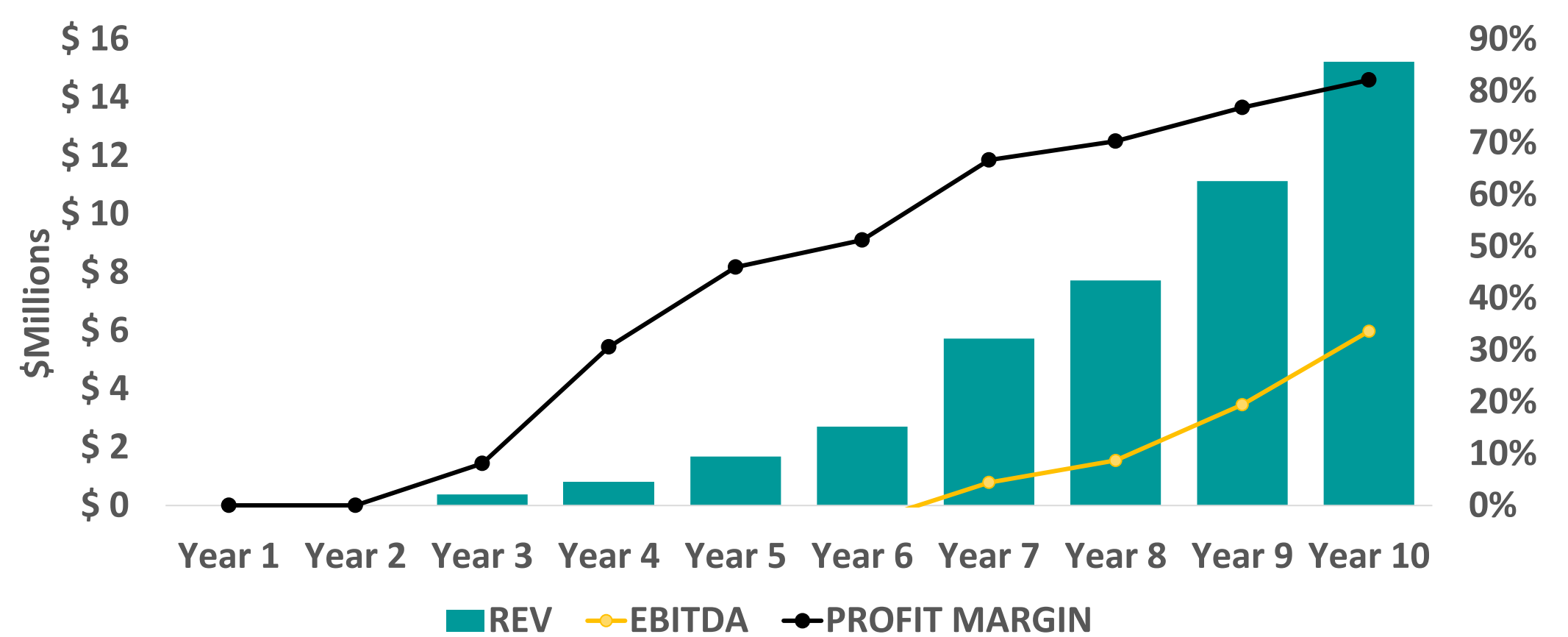
NPV: **$1.9M**

IRR: **20%**

Profit Margins: **70% (Y8)**

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[1] Zhang, Ruochong, et al. "A portable fiber based dual-wavelength confocal Raman spectroscopy system." Proc. of SPIE Vol. Vol. 11954. 2022.

Your Skin Is Worth A Million.