

Creating A National Research Ecosystem for Cancer

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STCC Vision and Mission

Vision

Become an international leader in translational research in selected cancers of particular relevance to **Asians**, with high-impact health and economic value.

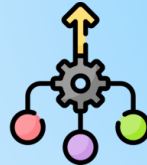
Mission

To be a **catalyst, accelerator & enabler** of national cancer research and translation through coordinating and driving cohesiveness in the research community

Aims



Go-to place for high value large-scale multicenter clinical trials in APAC



Consolidate & enhance new cancer resources at the national level



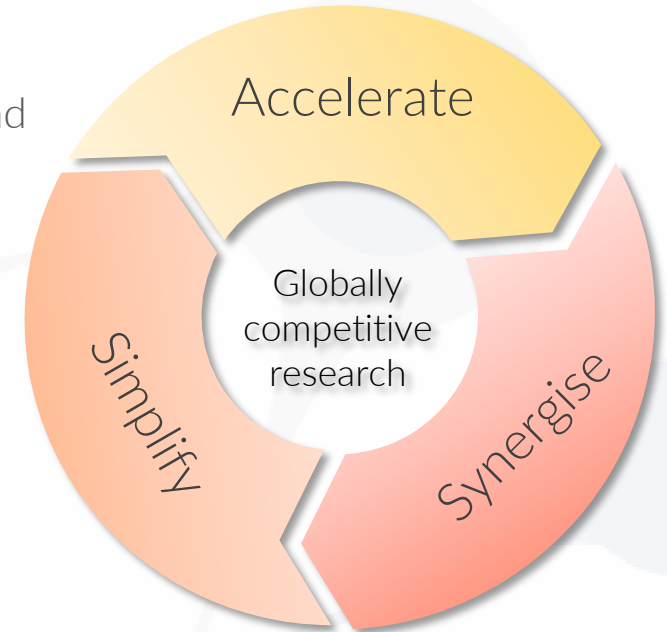
Facilitate interdisciplinary and industrial collaborations

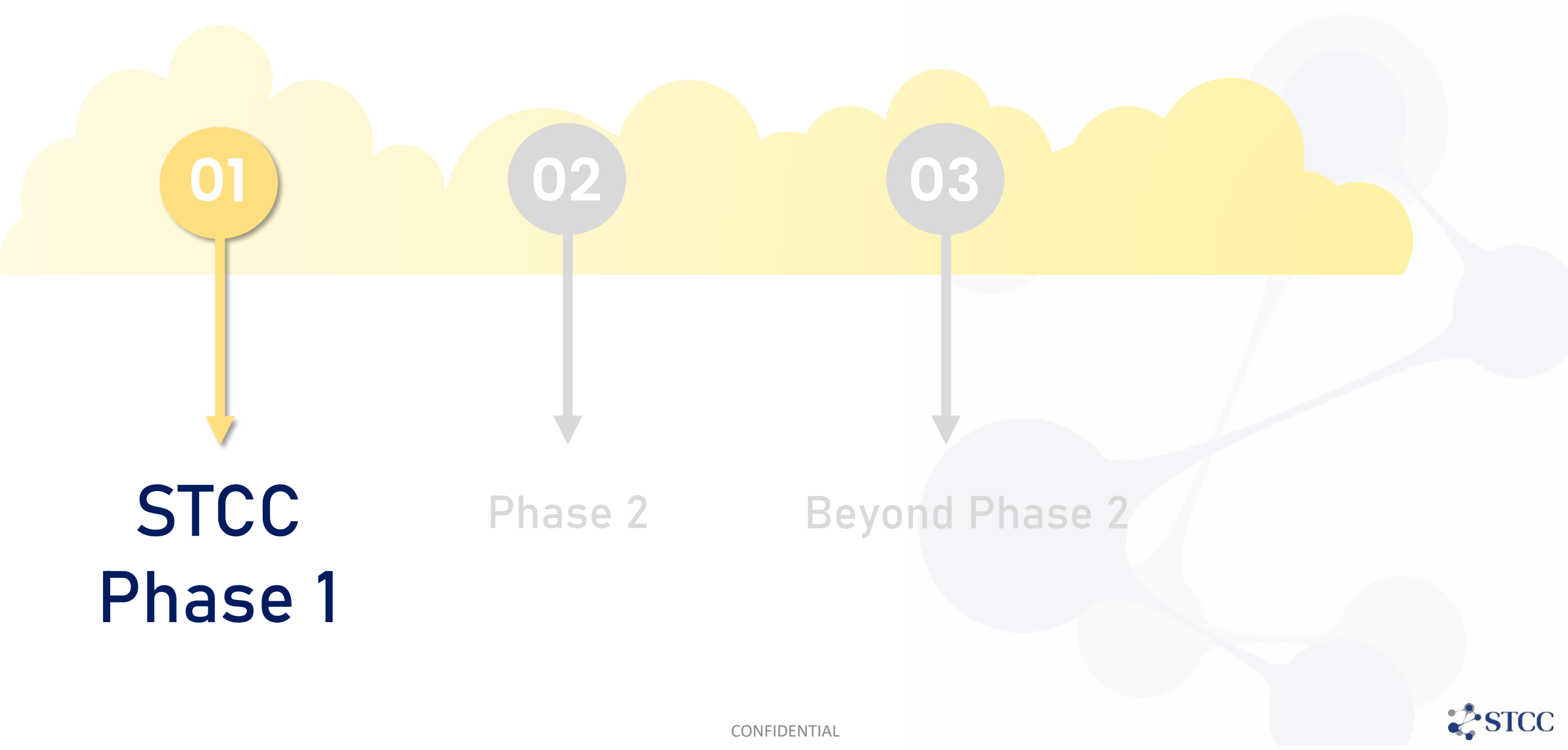


Grow critical mass of KOL and develop promising clinician scientists



Support local research enterprise and biotech start-ups



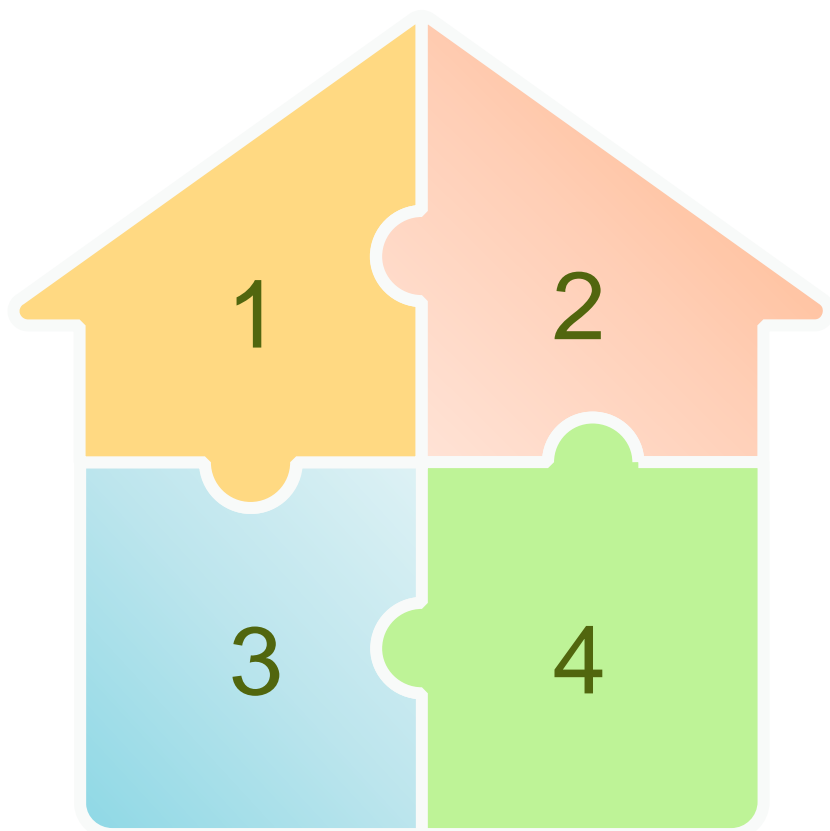


**STCC
Phase 1**

Phase 2

Beyond Phase 2

STCC Platforms



Cancer Clinical Trials & Investigational Medicine Units

Streamlined clinical trial start-up framework that facilitates PI/KOL engagement and a single agreement contract process



Cancer Databases & Tissue Banks

Robust, secure and harmonised central catalogue for cancer samples & associated clinical research data



Translational Research Integration & Support

A translational cancer research framework and national catalogues of cutting-edge molecular assays and tumour models

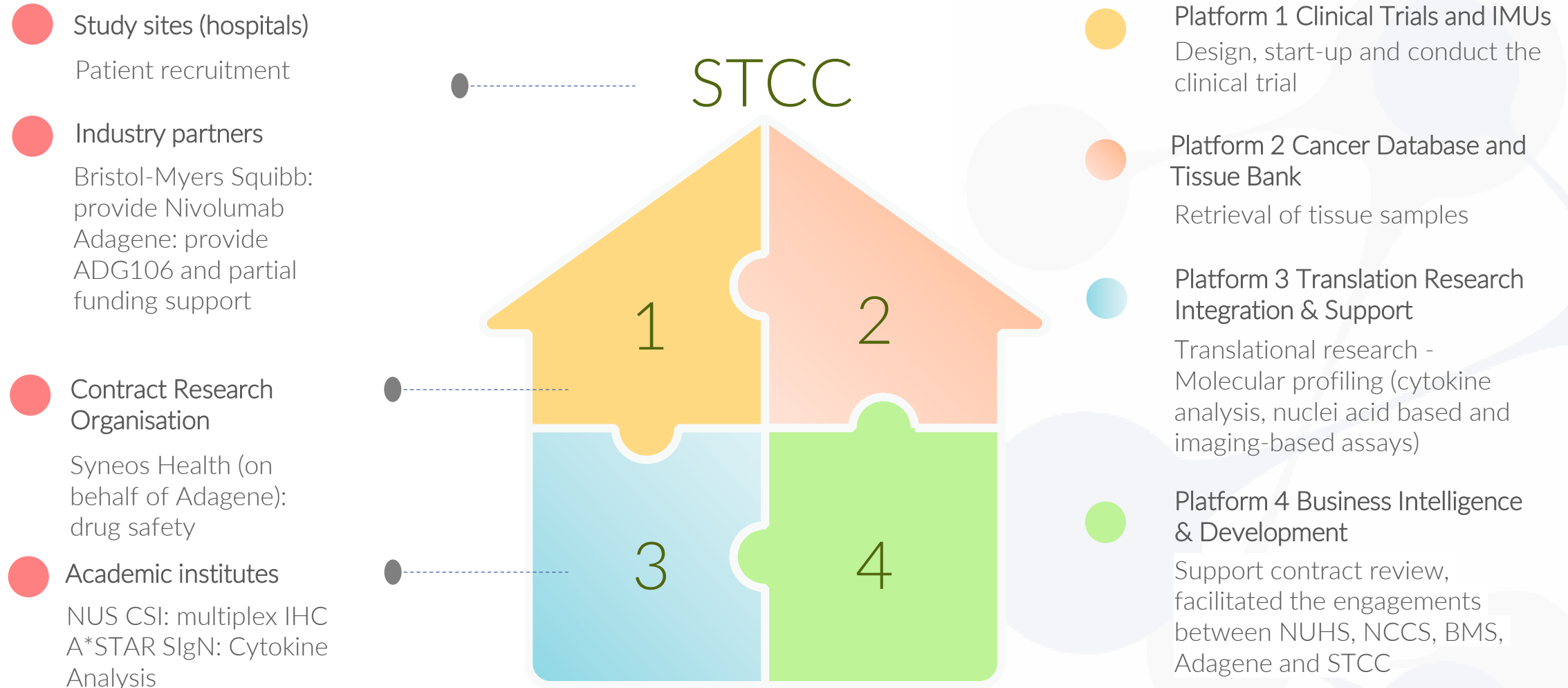


Business Intelligence & Development

Facilitate partnerships and collaborations with government, industry and academia

Cross-platform cooperation for a STCC study

Roles for the parties (STCC platforms and partners) involved



Before STCC

Complexities & impediments
in the ecosystem



01

Siloed research that discourages open sharing of knowledge and resources giving rise to duplicate efforts and inefficiency makes multipartite collaboration inconvenient and challenging:

- i. Multiple points-of-contact
- ii. Unhealthy competition for common limited funding sources
- iii. Lack appropriate platform for researchers to share and brainstorm ideas for collaborative studies

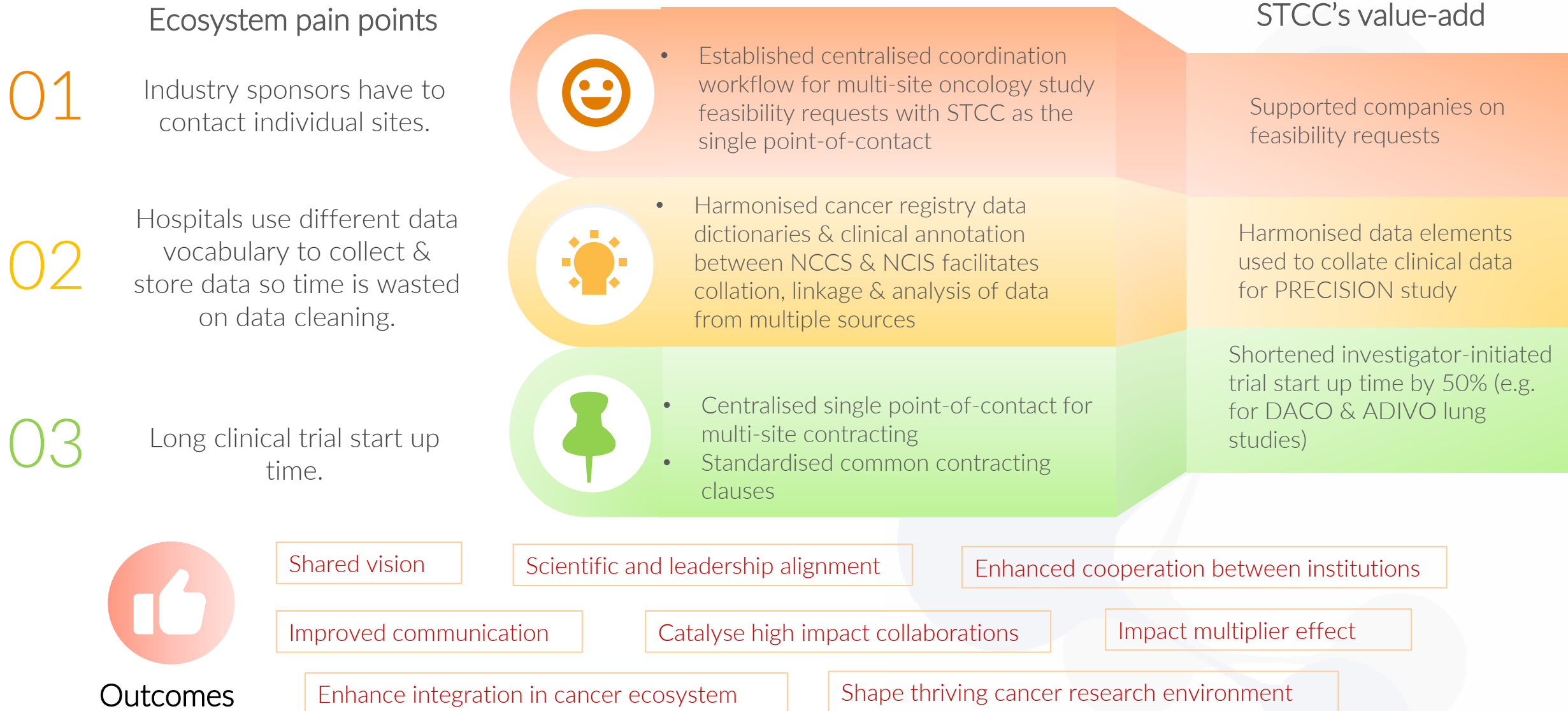
02

Difficulty in finding and accessing information, advice, and resources

03

Time-consuming and complex processes (e.g. operational, administrative, contracting) due to different practices/workflows at different institutions

STCC's value-add to the ecosystem



STCC Operating Model

Clients

- Principal investigators/ institutions
- STCC tumour groups
- Industry



Research/Initiatives (include both top-down strategic & bottom-up enabling approaches)

- Trials/studies
- Hypothesis-driven research
- Signature programmes

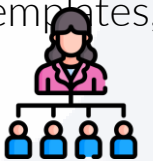
Primarily external funding

STCC One-stop Translational Research Front Door



STCC Engine

- Centralised coordination
- Integrated joint platforms
- National research resources (catalogues)
- Streamlined multi-centre frameworks, workflows, templates, agreements



Output

- Biomarkers
- Drug targets
- Policies
- New technology
- Health outcomes

Potential Partners in Translation

- MOH
- National platforms (e.g. DxD Hub, EDDC)
- A*STAR RIs
- Venture Funds



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STCC Phase 1 – Notable Milestones

2019

Nov 2019:
STCC
established



2020

Jan 2020: STCC ACRA registration
Nov 2020: First STCC MoU and
Press release with cancer centres &
industry (PRECISION study)



2021

Apr 2021: First focus group meeting
with institutional KOLs
May 2021: First academic multi-
institute study RCA executed (SUPER
study)
Aug 2021: First STCC-coordinated
clinical trial (DACO basket trial)
Oct 2021: ADIVO lung trial Press
release

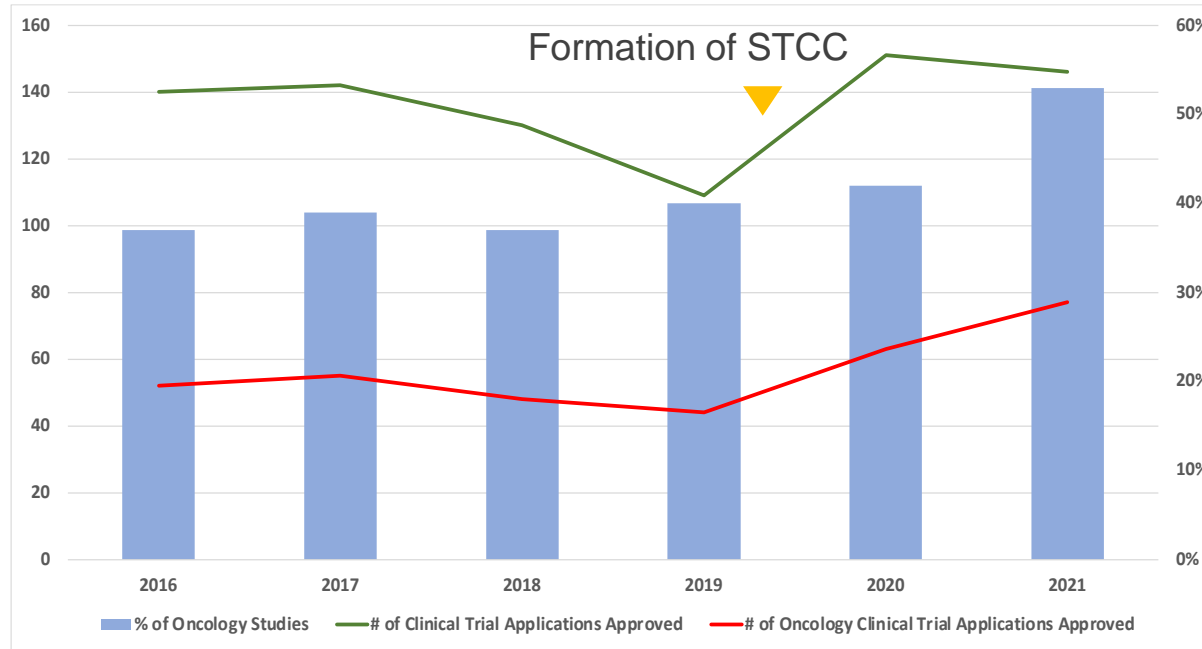


2022

Jul 2022: RCA executed (PRECISION study); MoU & Press
release on Cancer detection & screening (project CADENCE)
Sep 2022: First overseas conference – Paris ESMO conference
Oct 2022: First STCC team workplan meeting
Nov 2022: First Annual Dinner



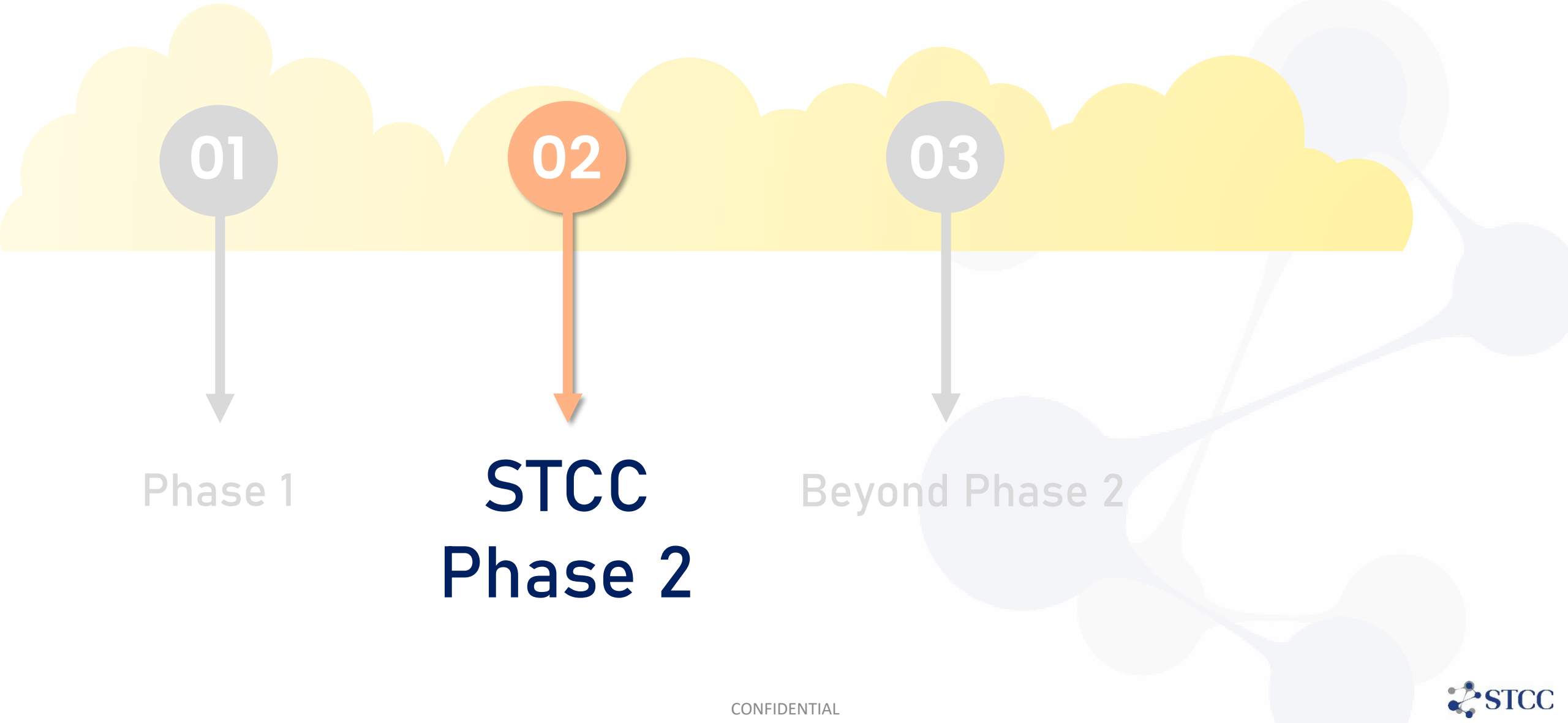
Increase vibrancy of Singapore's clinical trial landscape



Increase the number of clinical trials across Singapore



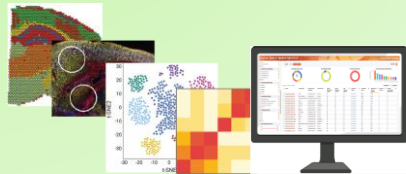
Increase trials meeting recruitment target



STCC Phase 2 Key Initiatives

National catalogues

Centralised access to consolidated resources



Collaborations & partnerships

Increase local & international pharma, biotech collaborations and develop a sustainable business model

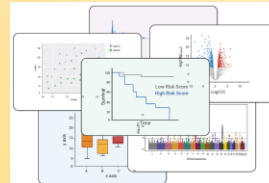


Multidisciplinary tumour groups

Harness ecosystem expertise and infrastructure e.g. LCGs

Health impact evaluation

Advance value-based cancer treatment/management



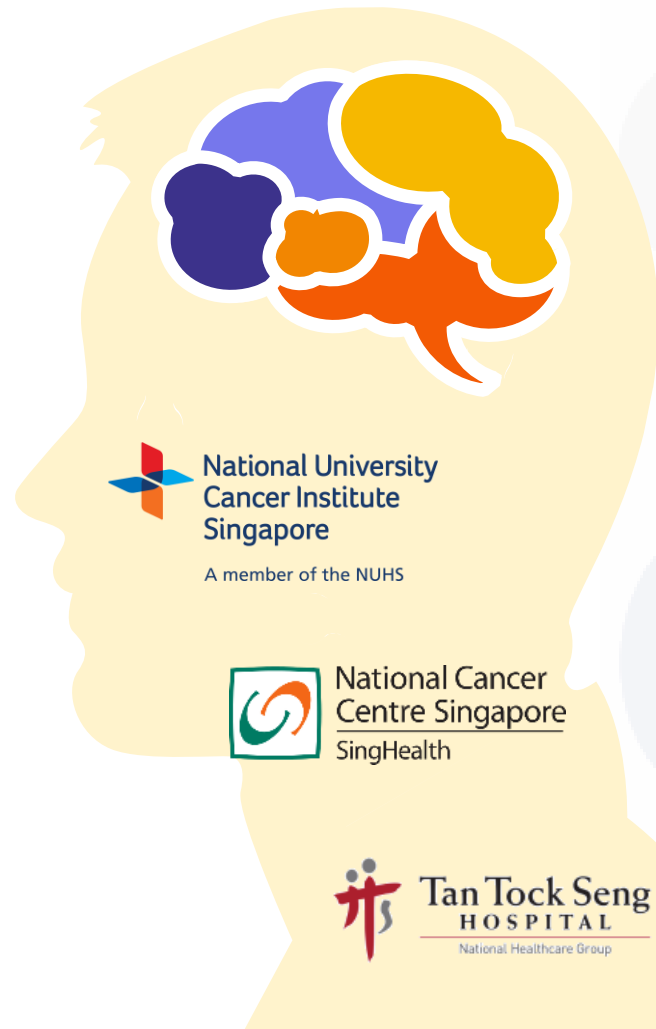
Signature programmes

Drive cross-institutional collaborative translational research at the national level that will generate health and economic impact and outcomes

STCC Tumour Groups

11 Tumour groups – phased operationalisation

- 1 Phase I and clinical pharmacology
- 2 Breast
- 3 Gynaecology
- 4 Thoracic , head & neck
- 5 Gastrointestinal
- 6 Sarcoma/rare malignancies (include CNS)
- 7 Myeloma
- 8 Lymphoma
- 9 Genitourinary
- 10 Leukemia
- 11 Nucleic acid therapeutics/ cancer vaccine



Develop strategic research agenda on a national level



Guide and shape value-based clinical guidelines and policies



Cultivate talent and future KOLs

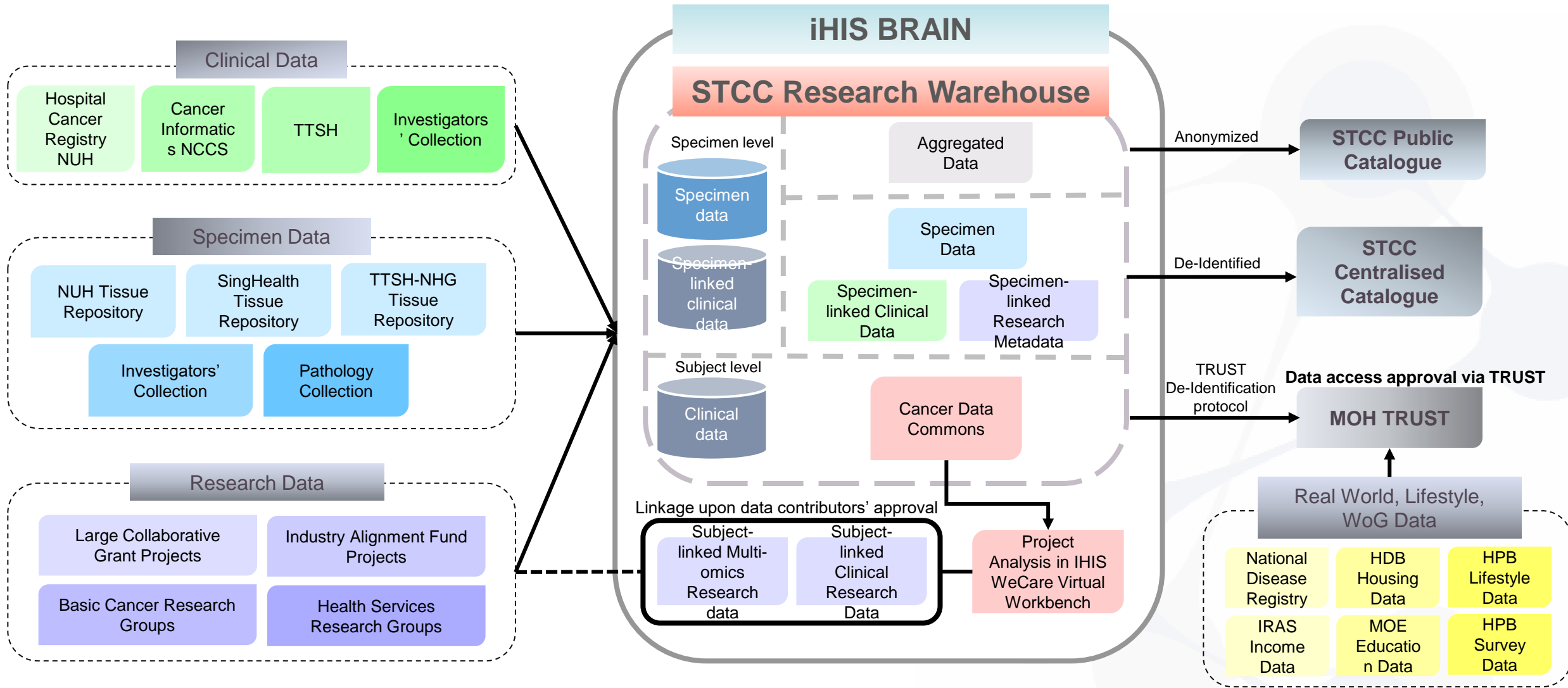


Idea exchange and generation across tumour groups



Provide expert guidance and thought-leadership for cancer research selection, study design and conduct

STCC Research Warehouse



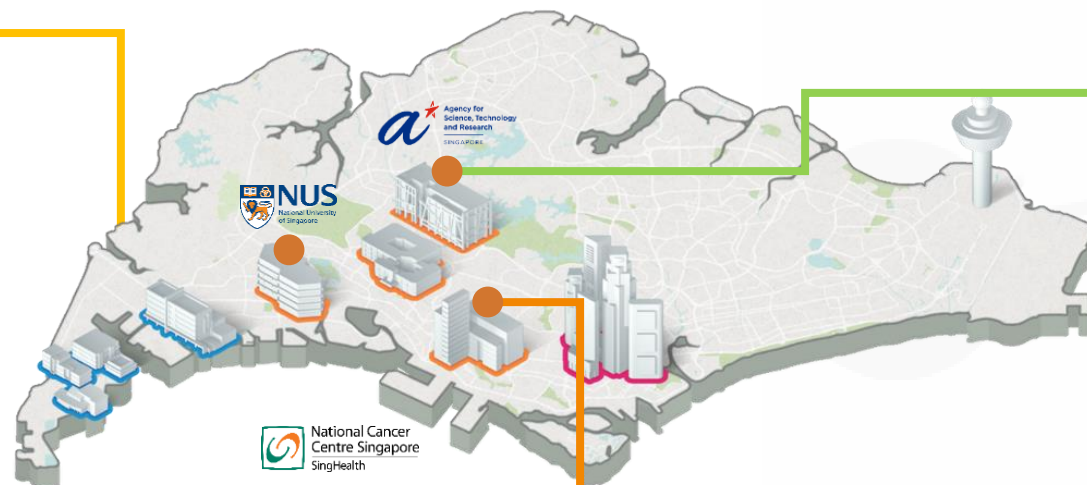
Molecular assay catalogue



Microscopy and Multiplex Assays (MMA)

End-to-end solution for Tissue Research

- Bioimaging – *confocal, live cell imaging, epifluorescence*
- Routine histology processes
- Immunohistochemical staining
- Multiplexed IF imaging and analysis – *Vectra 2, VisioPharm AI software*
- Spatial transcriptomics analysis – *Digital spatial profiling*
- Multi-omics analysis – *PhenoCycler fusion*



Cancer Discovery Hub

Functional Multi-omics Core laboratory

- Advanced single cell technologies – *10X chromium, DEPAArray system*
- Spatial profiling technologies – *10X Visium*
- Tumour model creation – *patient-derived xenografts, organoids and cell lines*



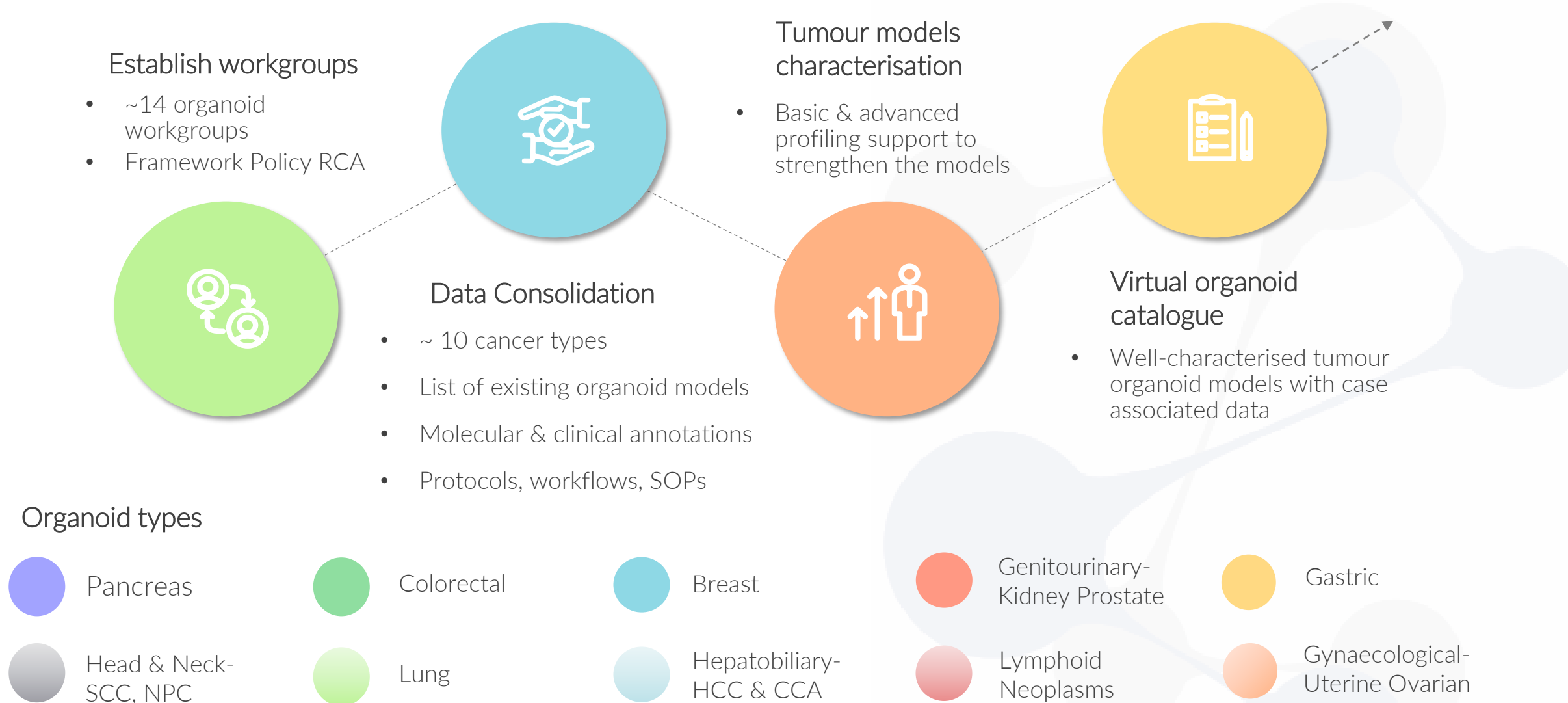
Centre for Genomic Diagnostics



CAP/MOH-accredited Clinical lab

- Genomic analysis technologies – *NGS, pyrosequencing, qPCR, digital PCR, NanoString*
- Assay development
- Clinical testing
- Computational genomics
- Test validation
- Diagnostics kits manufacturing

STCC DIVERSITY virtual biobank

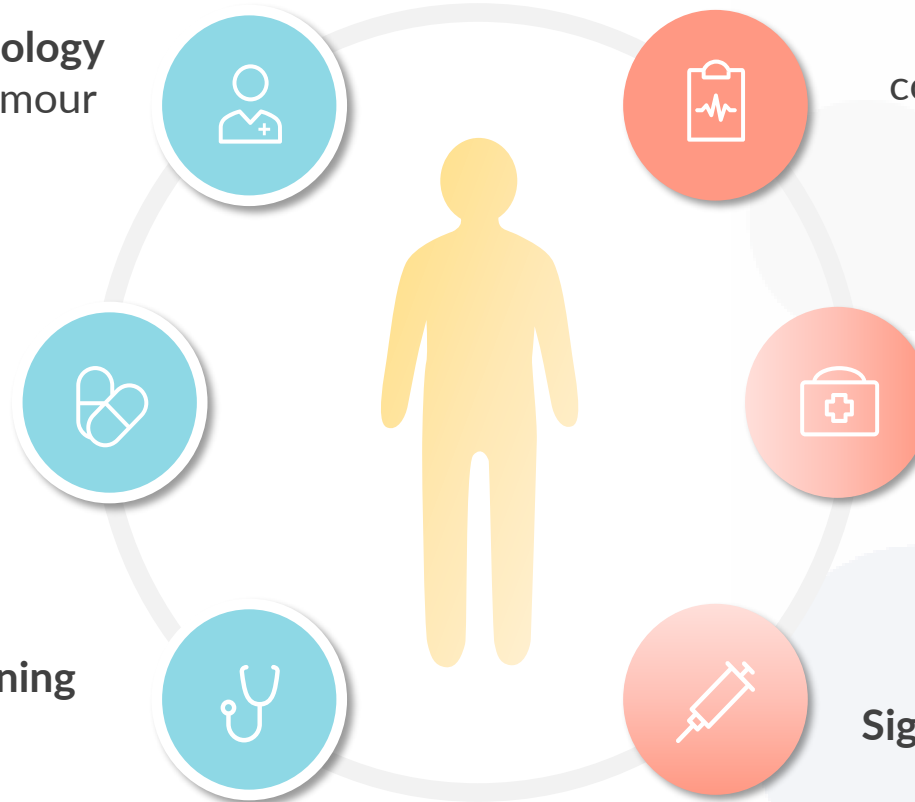


New Platform 5 Impact and Population Health

Facilitate/support **health technology assessment** – support STCC tumour groups

Implementation study for **multicancer screening** (e.g. Lucence, Guardant, GRAIL, MiRXES)

Community screening programme

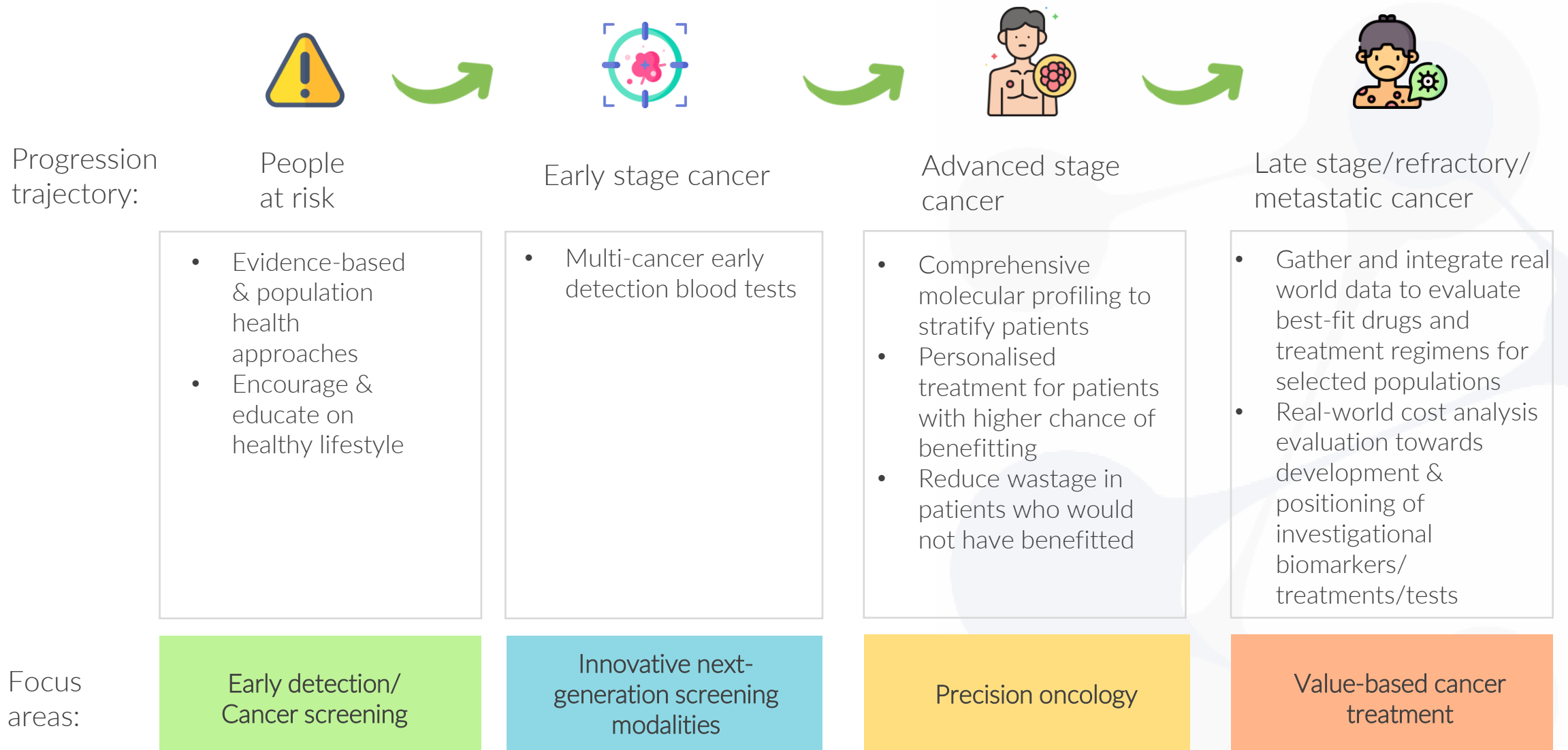


Health economic analysis for comprehensive molecular profiling for precision oncology (Shining Tower)

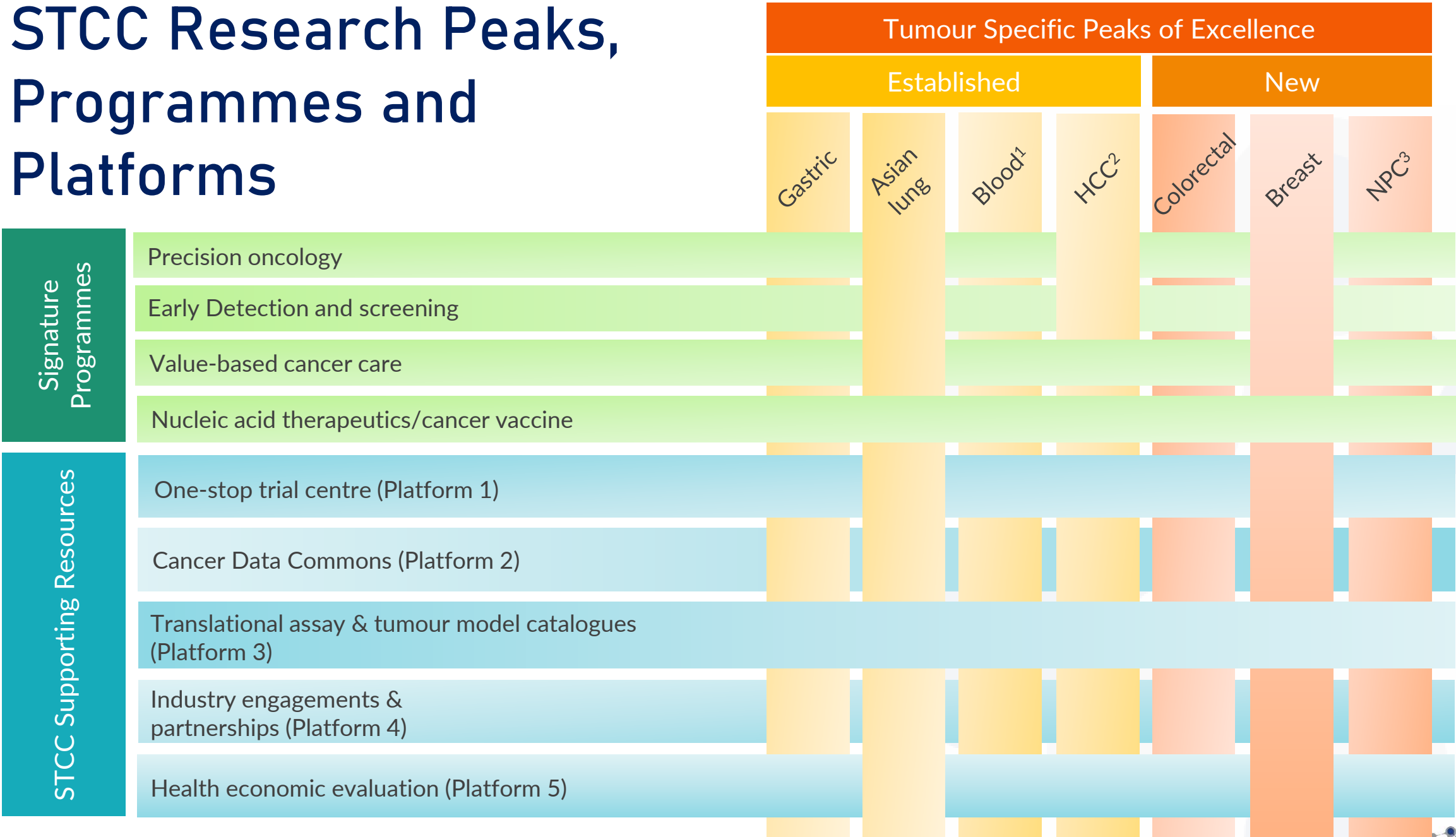
Introduce new or changes in **cancer-related** local or international practice **guidelines** and healthcare/health **policies**

Contribute towards **Signature programme KPI**

STCC Signature Programmes

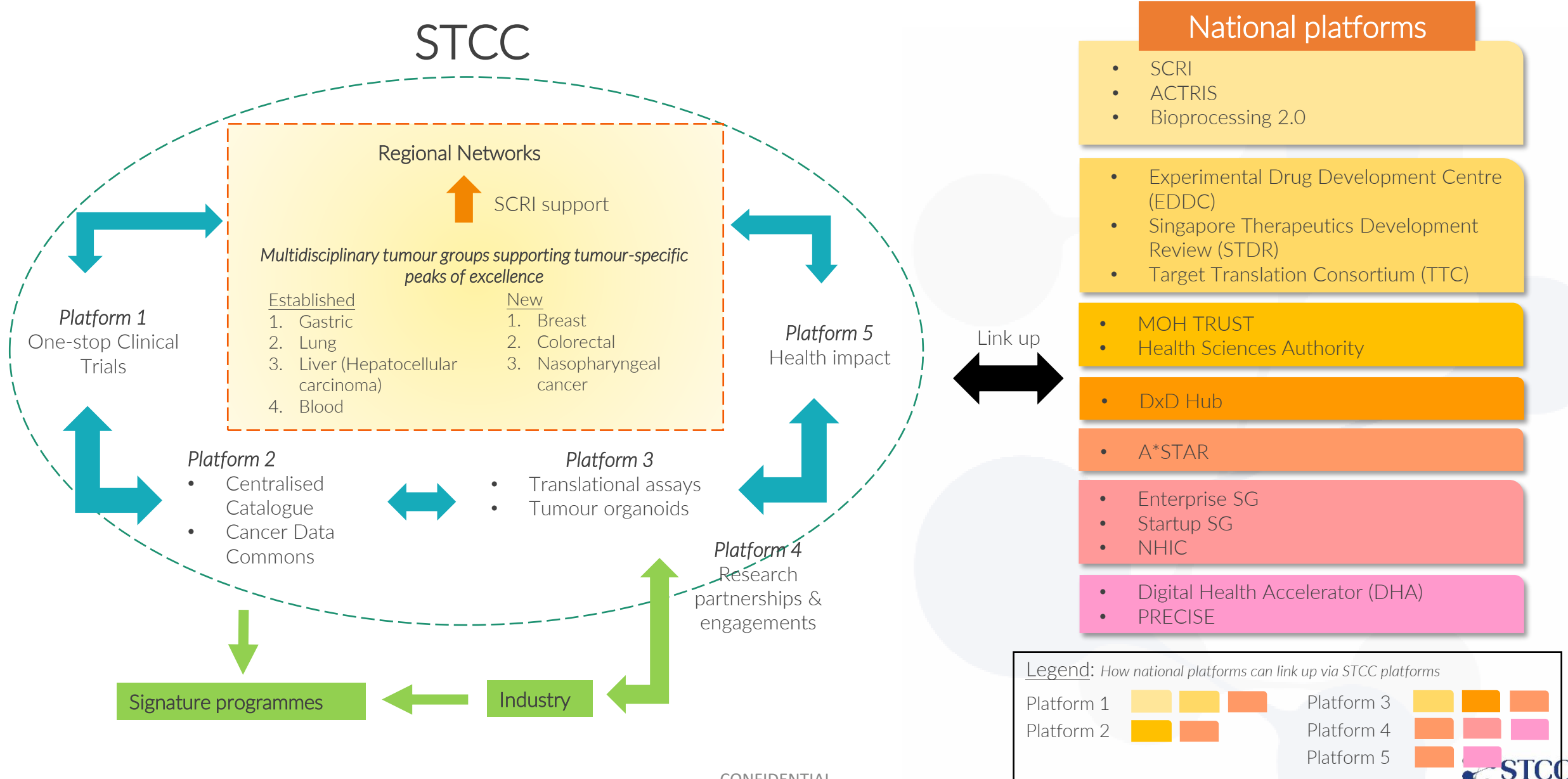


STCC Research Peaks, Programmes and Platforms



¹Lymphoma and myeloma; ²Hepatocellular carcinoma; ³Nasopharyngeal cancer

Ecosystem view by the end of Phase 2



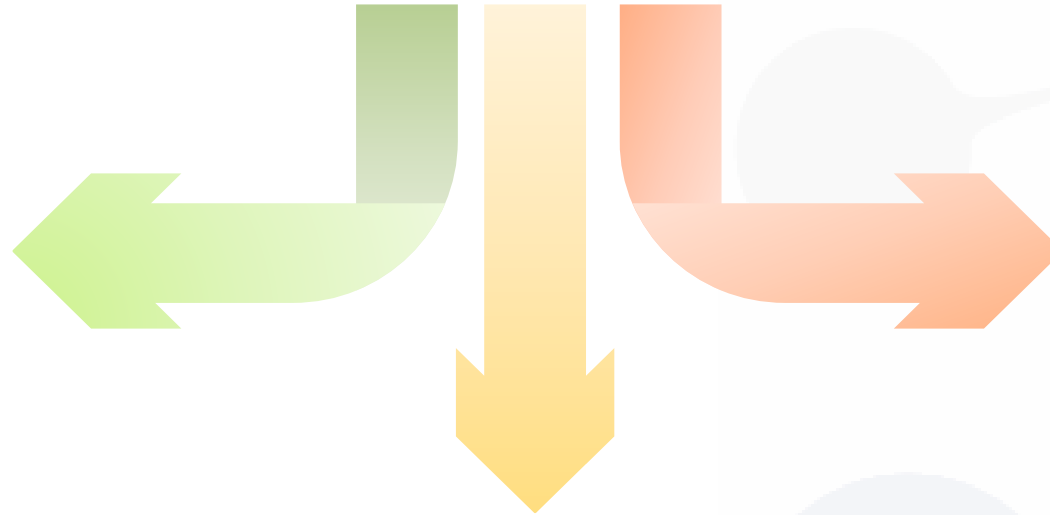
By the end of Phase 2

We take care of the complexities (cross-institutions, -clusters, -regions, industry, data and tissue sharing) and challenges (regulatory, legal, access), the researchers focus on the research



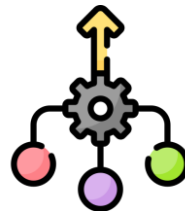
Simplified, streamlined, standardised processes and practices across institutions

- i. Cross-institute oncology trial start up
- ii. Cross-institute trial feasibility assessment
- iii. Multi-institute translational research
- iv. Streamlined agreement / contracting workflow & templates
- v. Streamlined industry engagement & collaboration pipeline
- vi. Sustainable biobanking
- vii. Harmonised biobanking (specimen and data sharing) across healthcare clusters



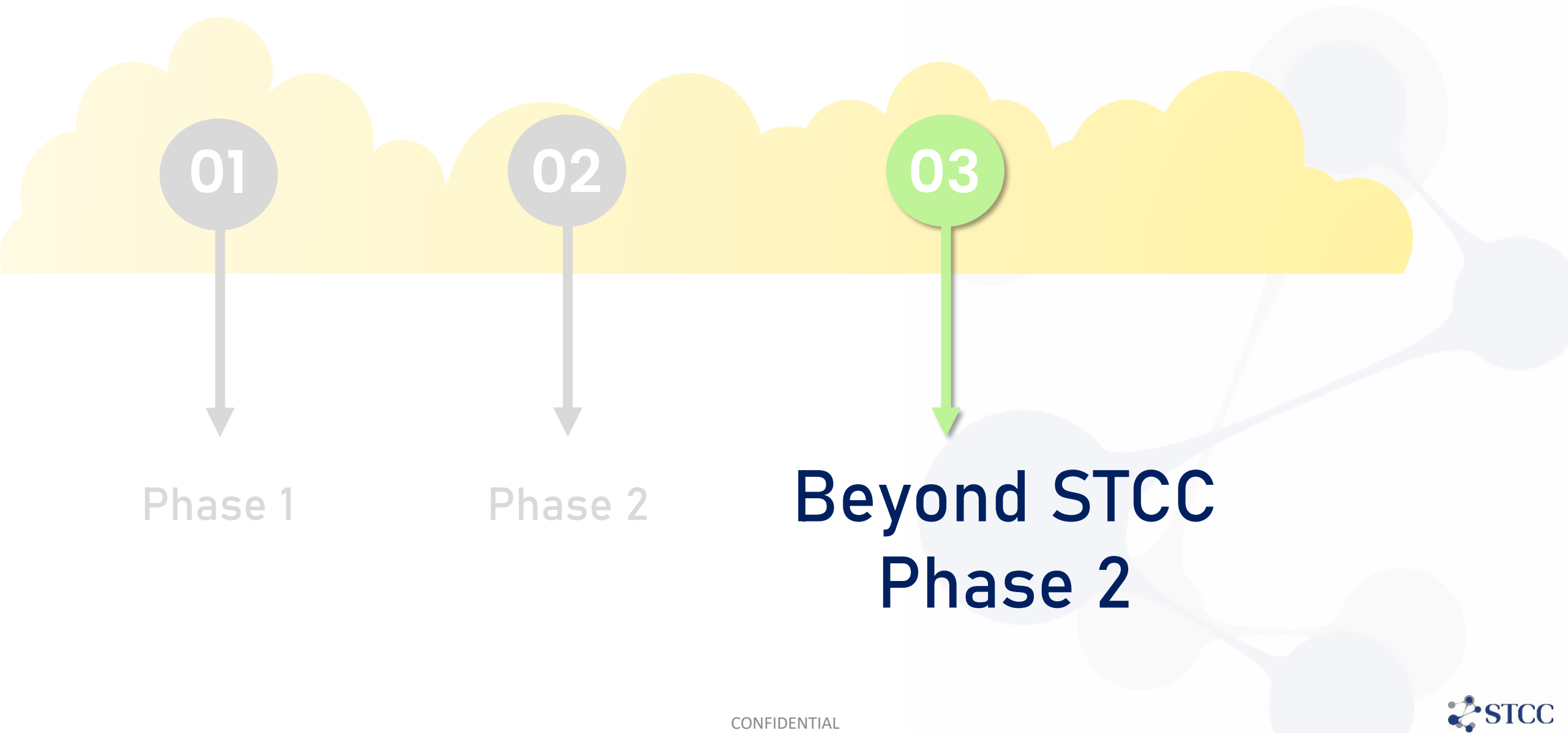
Centralised and consolidated national resources, networks, expertise and capabilities facilitates access that is available to all regardless of institutions & clusters

- i. Catalogues: specimen & data catalogue, molecular assays, tumour organoids
- ii. Cancer Data Commons
- iii. Multidisciplinary tumour groups
- iv. Signature programmes



Translational Research Front Door with cross-functional platforms for centralised multipartite collaborative cancer research maximises efficiency and productivity:

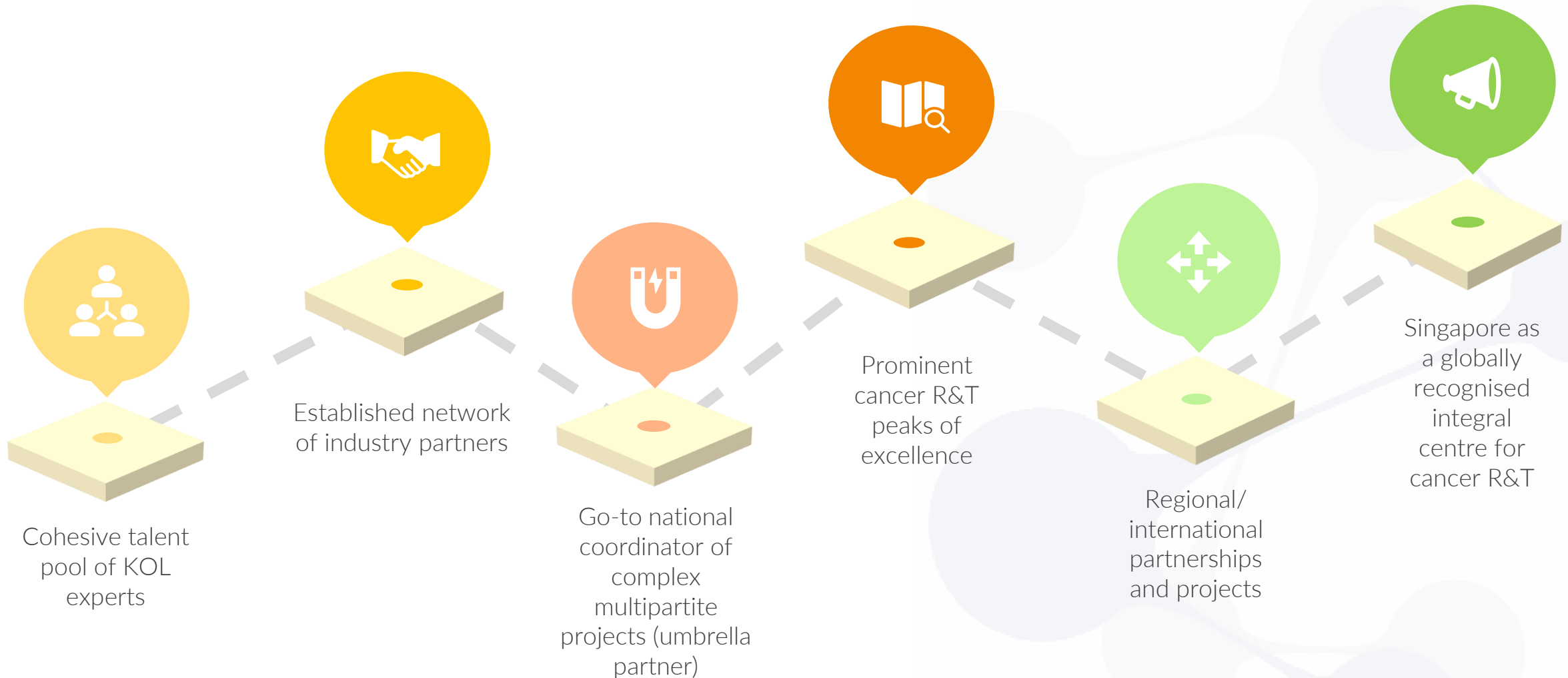
- i. single point-of-contact (one-stop)
- ii. reduces redundancies
- iii. increases synergies



Long-term aspirations



Long-term aspirations



Thank you

www.stcc.sg

Supported by



STCC Partners

