HaystackAnalytics

At-Scale Genomic Diagnostics

Real-Time Disease Mapping for **infectious diseases**

A data-driven approach to disrupt and revolutionize diagnostics.

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SINE
Business Incubator

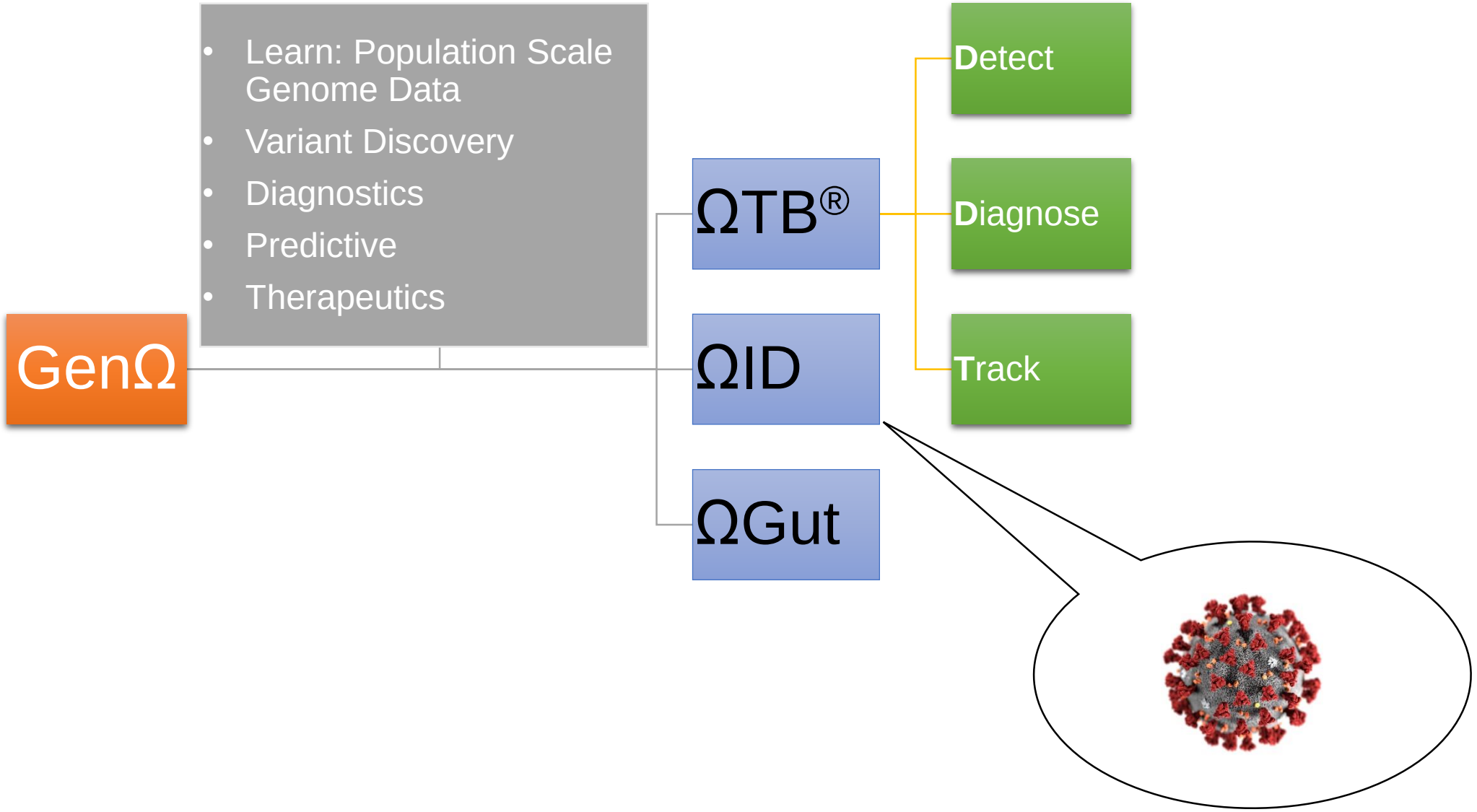
NIDHI PRAYAS

PLUGIN
Collaborative Incubation for Hardware & Systems Startups

DST
intel
SINE Business Incubator

#startupindia
Recognised under the Scheme

Haystack: Before **C**ovid



Covid19: Need for Integrated Solution

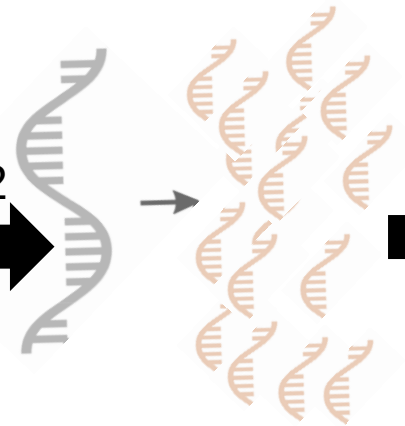
Detect	• qPCR • Ag Test • Radiology	**SARS-CoV-2 specific RNA sequence analysis**
Diagnose	• Comorbidities • Immune response Monitoring	**Association of genotypes with Outcome**
Track	• Trace: From Whom • Track: High Risks	**Relational database: Parsimonious reconstruction of transmission network**

ΩID

ΩID for Covid19

https://www.clinisciences.com/en/read/newsletter-26/covid-19-viral-transport-medium-2267.html

Enrich for SARS-CoV2

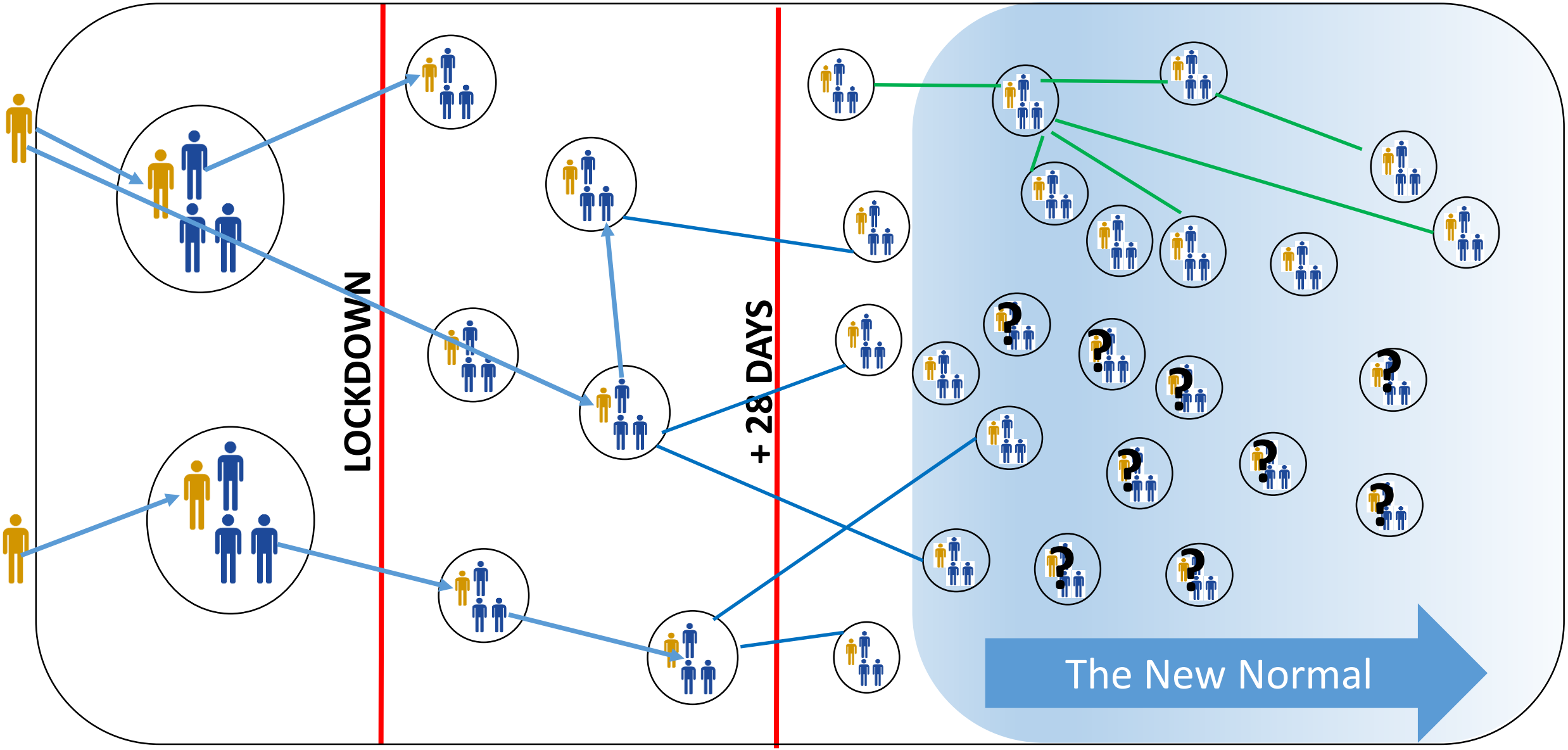


Sequence Assemble

Per Installation:

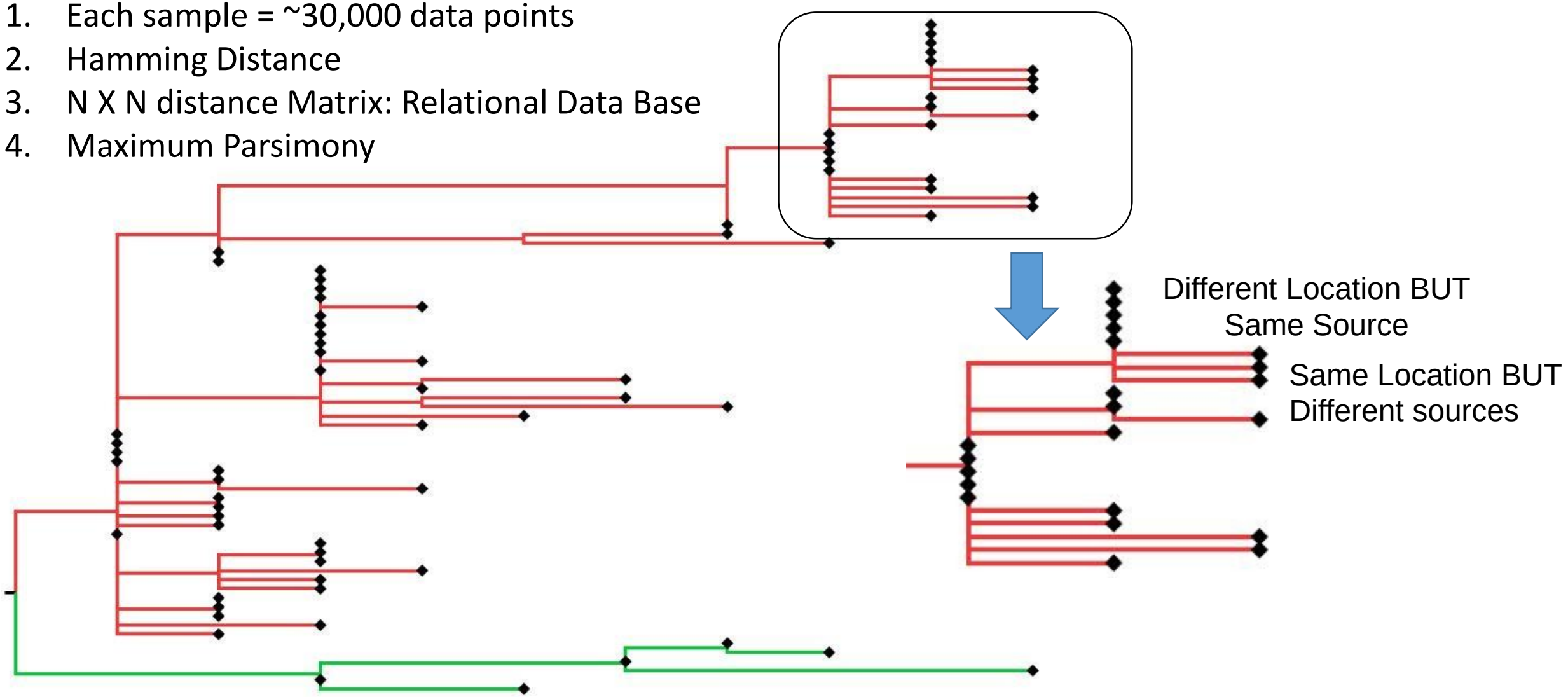
- 96 samples every 4 Hours
- INR 2500 / sample
- Automated analytics
- Real-time detection of transmission source
- **Conclusive evidence of no transmission in premises**

The Covid Network: Questionaire based tracking



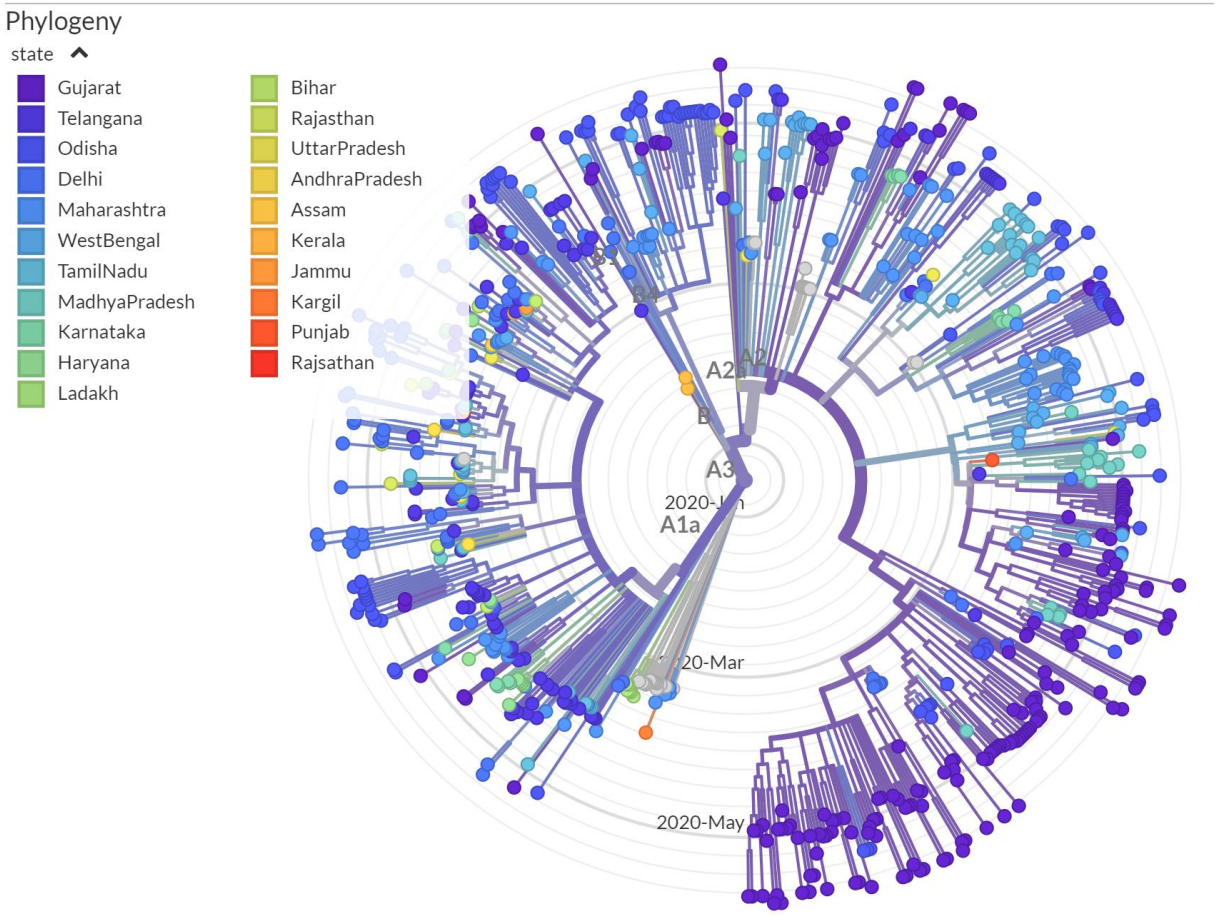
The Covid Network: Remote Tracking

1. Each sample = ~30,000 data points
2. Hamming Distance
3. N X N distance Matrix: Relational Data Base
4. Maximum Parsimony

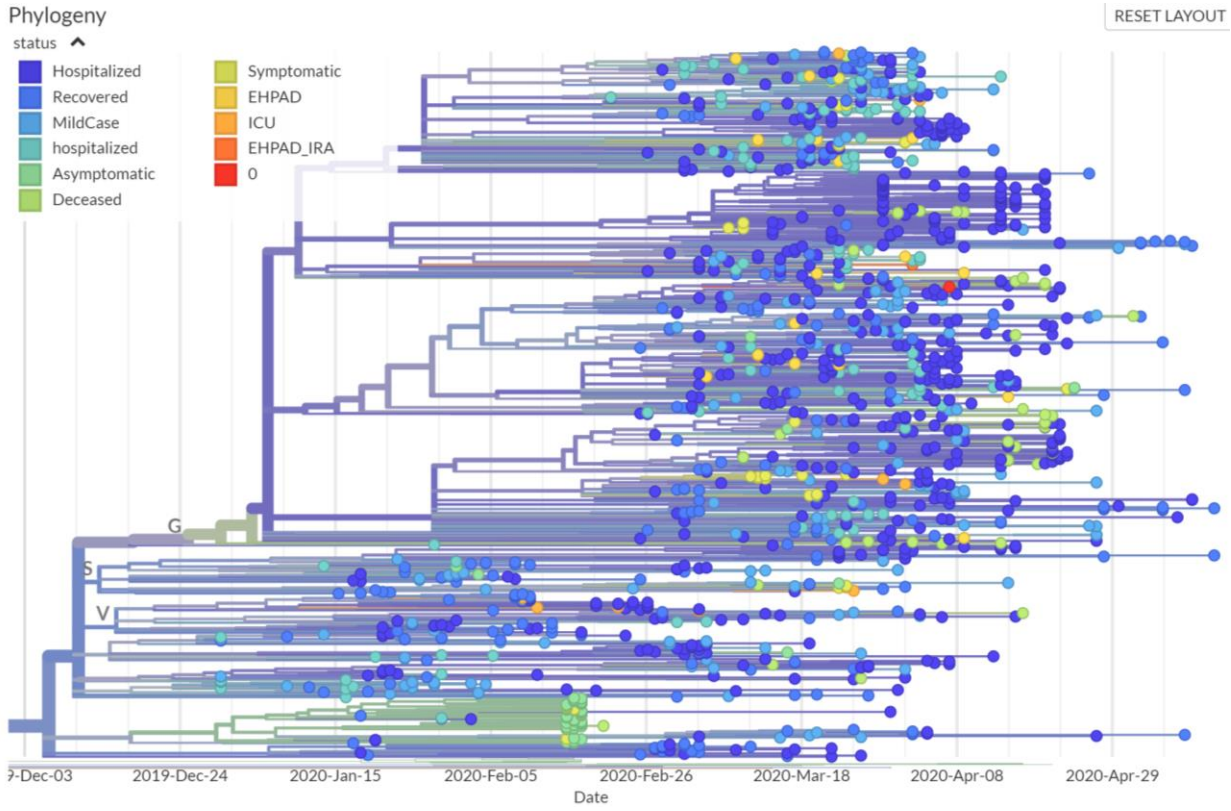


http://haystackanalytics.co.in/India/ncov

Phylogenetic Inference of Transmission Source

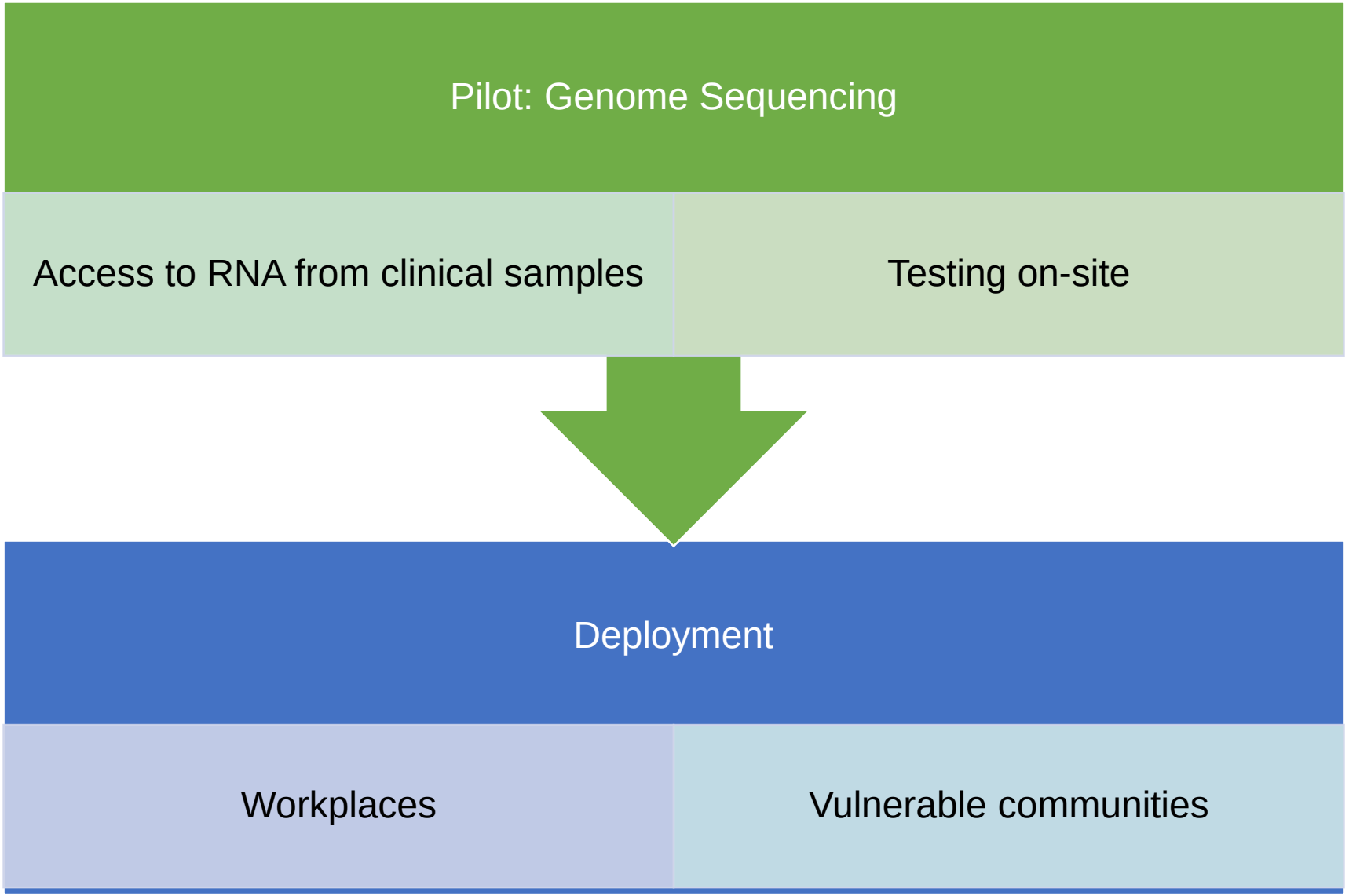


Genome Wide Association with Disease Outcome



Web deployment Built using the Nextstrain Web-Stack
https://github.com/nextstrain

DST CAWACH: Work in progress



The ability to trace the source of every infection is the key to unlocking the work place. We can enable screening, and tracking transmission on site. To unlock safely, contact us:

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