Business Ecosystems – A Primer

- Business ecosystems are a constructed or hosted entity to harness innovation across a large number of diverse organizations globally to create business value.

- They have been around for decades in industries such as aerospace/defence, software engineering, hardware engineering, microelectronics, manufacturing and now pharma.

- Successful business ecosystems focus on technology platforms and co-create technological building blocks for those platforms (i.e. The members contribute to the creation of the technology).
  - These platforms typically represent a really complex business or technological challenge.
    - Eg how do you drive energy efficiency in grinding circuits from 5% to 50% in 10 years?
    - How do you replace ball mills?
  - Platforms are created based on a need of the industry.
  - Companies involved in co-creating these platforms add assets (eg intellectual property, time, money, resources, technology) to the platforms and create their own product offerings.
    - Eg Android is a platform, Samsung and Nokia collaborate on the platform but compete on their products.
    - In pharma a number of companies are collaborating on a platform consisting of a synthetic route to a protein. They share development costs and then create their own drugs based on the platform.
    - In mining a platform could be a ball mill/SAG mill etc. where Metso and Autotec could add advanced control systems or tweak the design.
    - CMIC is focussed on is tackling the platforms in mining.

- They are comprised typically of groups of members working in a defined technology space (e.g. Exploration, continuous underground mining, energy in comminution) that target a specific need that is not possible for a single company to tackle.

- A key aspect is that everyone puts “skin in the game” and provides value to the ecosystem and contribute to building the platform(s). This is money, resources, technology etc.

- Business ecosystems are never hosted by government although government plays vital role in the aerospace business ecosystems simply due to how the
procurement process in this industry drives technology development.

- Business ecosystems are hosted by a company (e.g. Google, Apple, P&G) or by a third party organization (Eclipse Foundation/software, CMIC/Mining, P&G/manufacturing, RPDE & Niteworks/defence)
  - The host or keystone of an open ecosystem is typically very small but has a massive impact
  - The keystone advances the platform(s), decreases cost, increases trust, creates the technology groups, recruits members and decreases barriers to technology adoption and market entry of new technology & products

- Members cover the entire supply chain from academia to startups to SME’s to adopters (e.g. Mining companies) and also represent multiple industries

- Business ecosystems can be open or closed; Google operates both, Apple and Microsoft are closed and led by a specific vendor

  **CMIC is building the first open innovation business ecosystem for the mining industry.**