

BeSync Cyberphysical Information Exchange

BeSync, an enabling technology, provides a simple, secure channel to a information management system based on geotemporal coordinates and managed by organizations and individuals.

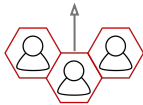
Geotemporal
Related to **where** a person or thing is at different **times**
Cyberphysical
Including **digital** and **physical** components

Problem:

Products, services, and customers are managed by monopolistic gatekeepers, stifling innovation and keeping new entrants from reaching the market.



66% of consumers start their product searches on **Amazon**.
Google owns **92.7%** of the search engine market share worldwide.
Facebook accounts for **72%** of all social media site visits in the US.

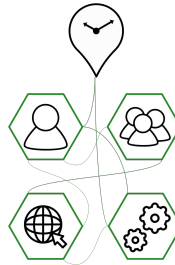


Big Tech monitors, redirects, and throttles access to information and users through closed applications and devices.

Nearly all virtual, physical, and social systems are reliant on this access.

Solution:

BeSync includes a **geotemporal, cyberphysical information bridge** called **The Ether**.



The Ether's accessible services enable **flexible and collaborative use** of times and locations.



People and organizations regain control from the center of their **blended virtual and physical systems** of information.



BeSync manages information exchange contextualized to time and location, enabling seamless, secure information transfer between and within virtual and physical systems, as well as between the people using them.

The Ether introduces new geotemporal and cyberphysical capabilities, accessed locally or remotely via the proprietary nodes that connect the systems and people within it. This structure provides interoperability, discoverability, and stability for new and existing products and services.

As people and businesses reconsider and rearrange their use of space, **BeSync** provides the tools to do so in tandem with their use of time, and in cooperation with others in the system. This maximizes connectivity, accessibility, and flexibility.

The Ether untangles the Web.

Problem: Inaccessible Information

Organizations



Providers of products and services must comply with monopolistic gatekeepers and their business model needs.

Innovators create more powerful technologies and richer datasets, yet they remain inaccessible & disconnected.

Many industries have not yet adapted to digital transformation, though emerging tools can help, once accessible.

Big Tech

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Convenience is consolidated.

People



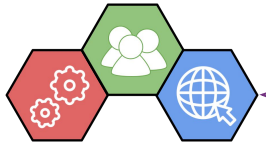
Currently, people have limited options for finding information essential to basic human needs.

Decisions and directions by algorithms are made inside digital black boxes with dubious incentives.

User data is collected and profited from without people's control, awareness, or benefit.

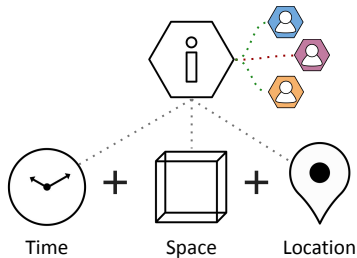
Solution: A Network of Shared Data Layers

Organizations



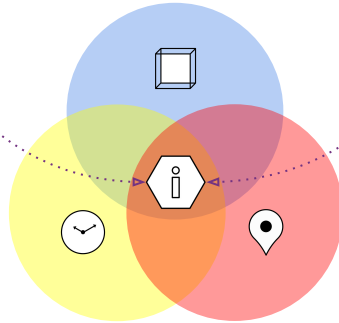
The Ether provides partners with discoverability, interoperability, persistence, and inter-partner shared services.

Information is contextualized to time, space, and location, and permissions explicitly defined.



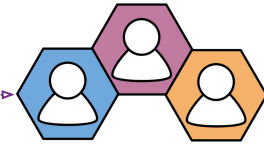
The Ether

BeSync's four-dimensional system manages coordinates in time and space, enabling information transfer between and about physical and virtual systems.

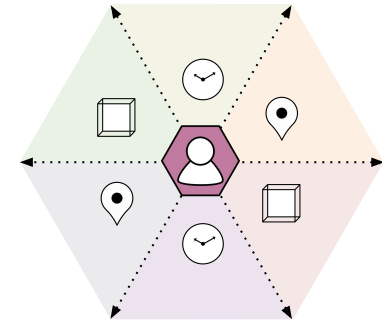


BeSync manages extensible, flexible, secure networks of shared, public, and private information for biological, physical, and digital systems.

People

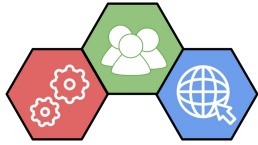


People navigate an ever-present, accessible, and updateable virtual representation of past, present, and intended use of space.

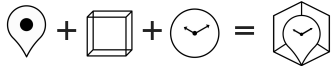


BeSync Information Exchange in The Ether

Organizations



Ether Coordinates

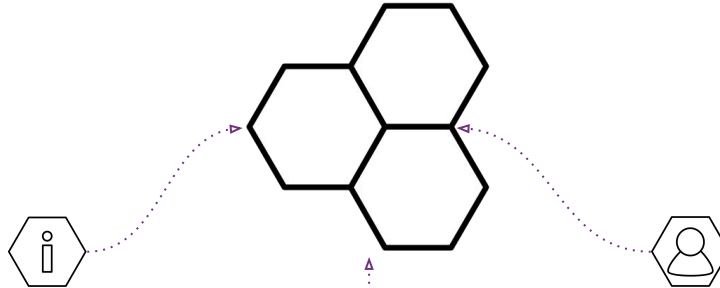


Packaged Information



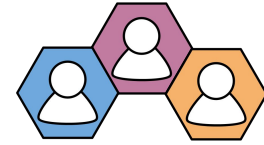
Data sources and corresponding coordinates are managed by groups responsible for the information accessed through the system.

The Ether



Information Marketplace

People

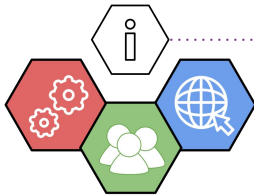


- GPS Coordinates + UTC
- Authentication
- Permissions & Security
- Preferences *optional*

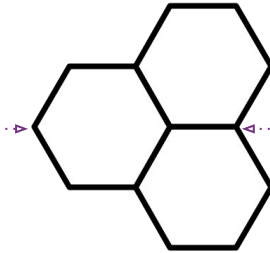
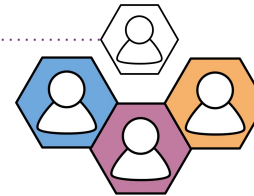
People share essential information anonymously while active in the system directly or through a product or service utilizing The Ether.

Core Components

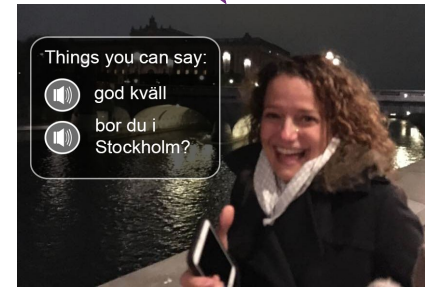
Cyberphysical Information



Human-Centered Navigation



Cyberphysical Interactions





BeSync Information Exchange Subsystems

BeSync empowers individuals and organizations to solve existing, persistent problems through an independent, lightweight data layer. BeSync provides the tools through which participants construct the framework for a practical **metaverse** through **organic growth** and grow a shared user base from known, trusted systems.

As an information exchange system, BeSync necessarily consists of **three integral components**: a unit of information, a distribution system, and an authentication mechanism.

BeSync is a utility that enables the exchange of information between the physical world and virtual systems.

Unit of Information

Problem

Solution

Capabilities

A **phigit** is a 4-dimensional NFT. This secure unit is contextualized to time and location, and represents both **physical** and **digital** information.

No way to communicate between virtual and physical systems.

Manage coordinates in time and space, enabling information transfer between and about virtual and physical worlds.

Blended virtual and physical systems: “Cyberphysical” building blocks for the metaverse are also accessible relative to real-world time and space.

Distribution System

The Ether is an information bridge between physical and virtual systems.

No data interoperability through which to distribute and access information.

Enable people and organizations to manage data sources through an information marketplace and trust verification system.

Ever-present, accessible, and updateable virtual representation of past, present, and future use of time and space.

Authentication Mechanism

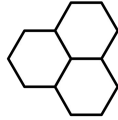
A **handshake** establishes a secure, pseudonymous connection based on location, time, permissions, and/or preferences.

No way for people or organizations to take ownership of their data and manage across multiple systems.

Allow people and organizations to control their own data.

Secure, passive, relevant, contextual information exchange.

BeSync Cyberphysical Information Exchange Components



Cyberphysical information exchange is facilitated by the **BeSync Coordination System** in **The Ether**.

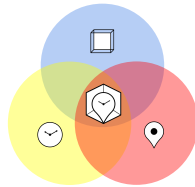
The Ether provides secure protocols for accessing and sending information contextualized with time & location, subject to the privacy settings of the people and organizations participating in the system.

■ Phygits: Identifying & Storing

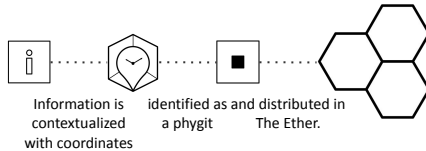
In **The Ether**, a unit of information is managed as a “cyberphysical object” called a **phygit**.

A **phygit** persists as defined by its **coordinates**: location, time, and/or spatial dimensions.

- 📍 Location
- 🕒 Time
- 📄 Spatial Dimensions

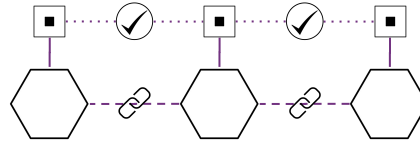


A **phygit**'s geospatial and geotemporal **coordinates** define access to and location of its contents.



⬡ Worlds: Organizing & Authorizing

Phygits are organized in **worlds**, which are owned and managed by organizations and individuals.



People and organizations may “**trust**” each other’s **worlds**, providing mutually-agreed upon, permissioned access to included **phygits**.

A **phygit**'s owner may assign one or more **keys** or **orbits** for security, discovery, and distribution.

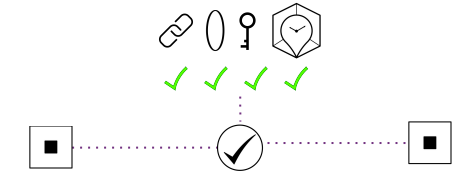
🔑 Access to **phygits** or **worlds** may be restricted by certificates of permission, or **keys**.

🌀 **Phygits** may be included in one or more publicly-available categories called **orbits**. **Orbits** provide an open cataloguing system.

✔ Handshakes: Discovering & Exchanging

A **phygit**'s contained information may be delivered actively or passively to another phygit through a **BeSync Handshake**.

Information exchange is triggered and verified according to participating phygits’ **trusted worlds**, **orbits**, **keys**, and **coordinates**.



Phygits, worlds, and handshakes maintain The Ether’s cyberphysical building blocks and information pipelines.

Secure, Accessible, Shared Data Layers

Information for research, recreation, and productivity already surrounds us. The Ether makes curated and public information available outside of the existing, ad-driven marketplace, and discoverable through a trust machine.

Important information is easy to find



Distributed Information
—via—
Distributed Technologies

Geotemporally-placed historical and cultural information: from text to audio, photo, video, AR, VR.



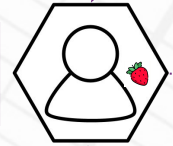
Availability of bikeshare, public transportation, and taxis



Availability of preferred or suggested goods and services, based on explicitly chosen sources



Geotemporally-fenced event includes reliable information, additional media, and community interaction, as well as connections to trusted local establishments

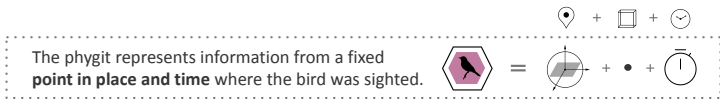


Seamless information flow through trusted connections



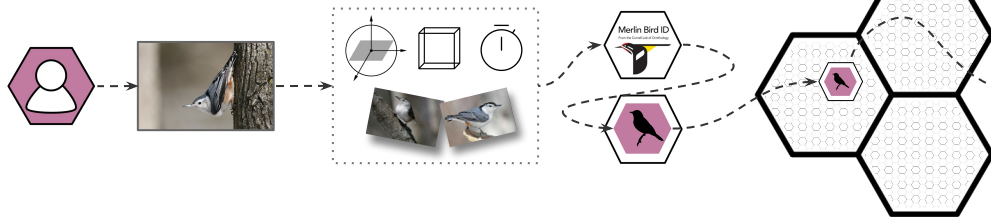
Sample Phygit: Bird Sighting

Merlin Bird ID is used by millions of bird watchers, professional and amateur. The information is shared with Cornell Tech's School of Ornithology. All sightings are geotemporally tagged and may include audio recordings or photos. The application also offers AI bird detection based on sound recording and user community.



User-Defined Phygit

A birder participating in The Ether observes a rare nuthatch and adds it through their preferred birdwatching application, attaching photos as assets.



Information Distribution

Information is distributed to and accessed by organizations according to mutually determined permissions and agreements. The creator retains ownership and may adjust settings at any time.



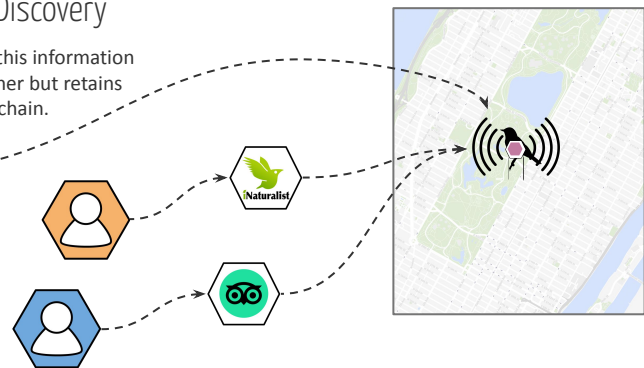
Organizations manage phygits in "worlds," which are accessed by connected products and services across a wide range of industries and use cases.

Search & Discovery

The contributor has made this information available publicly in The Ether but retains ownership through a blockchain.

Participants in The Ether manage access, search, and discovery:

- Active/Passive
- Remote/Local
- Personal/Public
- Subjective/Objective



Expanding the Concept

