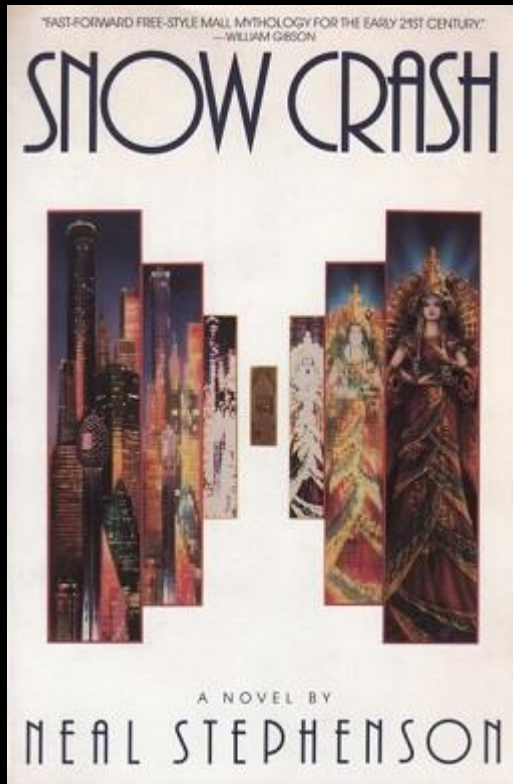


The Metaverse: The next big thing? Or not?

Dr. Carlo Duprel

The origins in Pop Culture



The term *metaverse* was coined in Neal Stephenson's 1992 science fiction novel *Snow Crash*



A virtual reality-based successor to the internet depicted as an urban environment developed along a 100-meter-wide road, called the Street, which spans the entire circumference of a featureless, black, perfectly spherical planet.

The origins in Pop Culture



Novel released in 2011



Film adaptation in 2018 by Steven Spielberg

The origins: Gaming

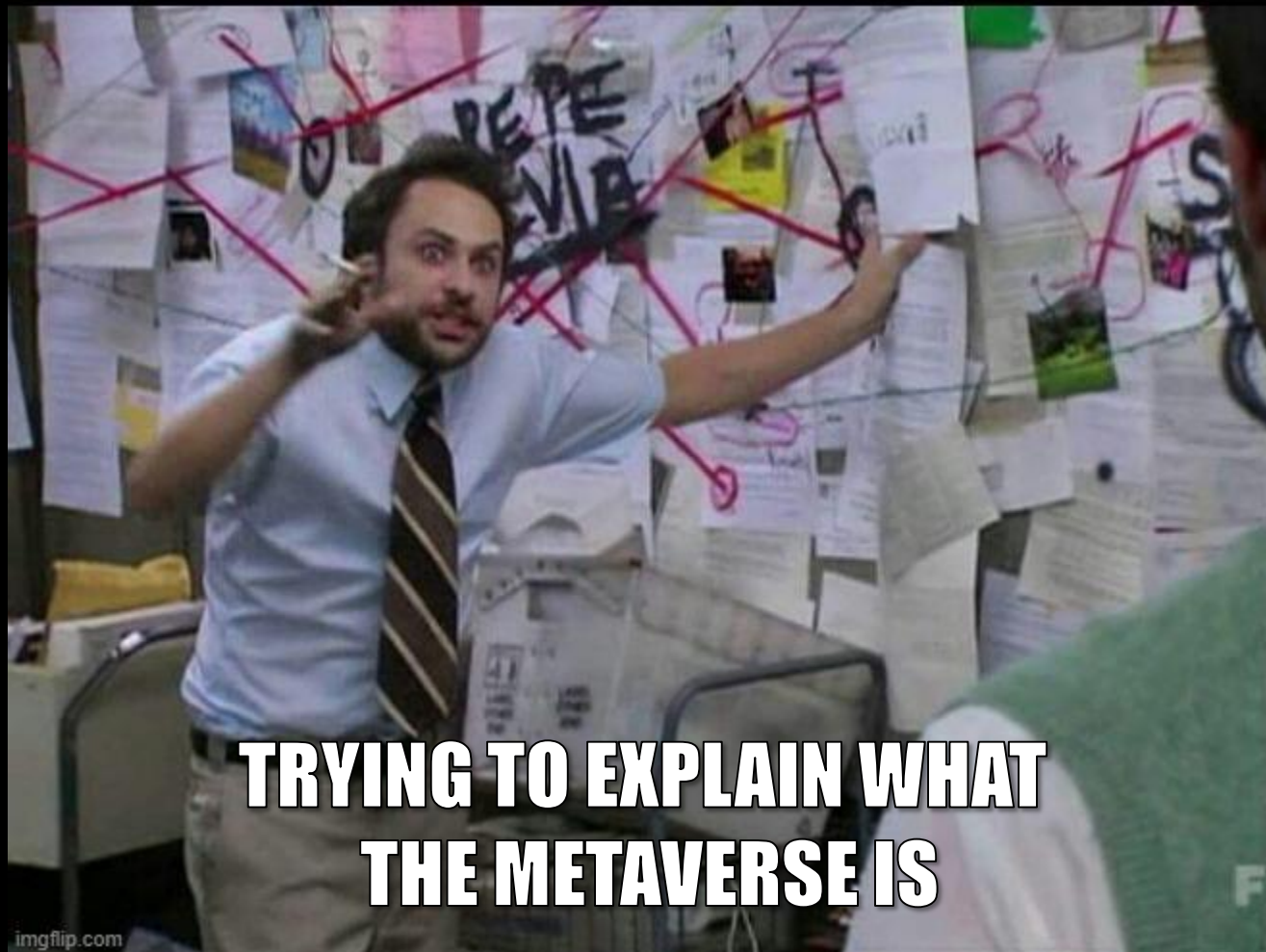


- Second Life is an online multimedia platform that allows people to create an avatar for themselves and then interact with other users and user-created content within a multiplayer online virtual world
- Launched in 2003, it saw rapid growth with approximately 1 million regular users in 2013
- In many ways, Second Life is similar to massively multiplayer online role-playing games; nevertheless, Linden Lab is emphatic that their creation is not a game: "There is no manufactured conflict, no set objective"

Today, Interactive real-time 3D virtual worlds exist (and thrive)



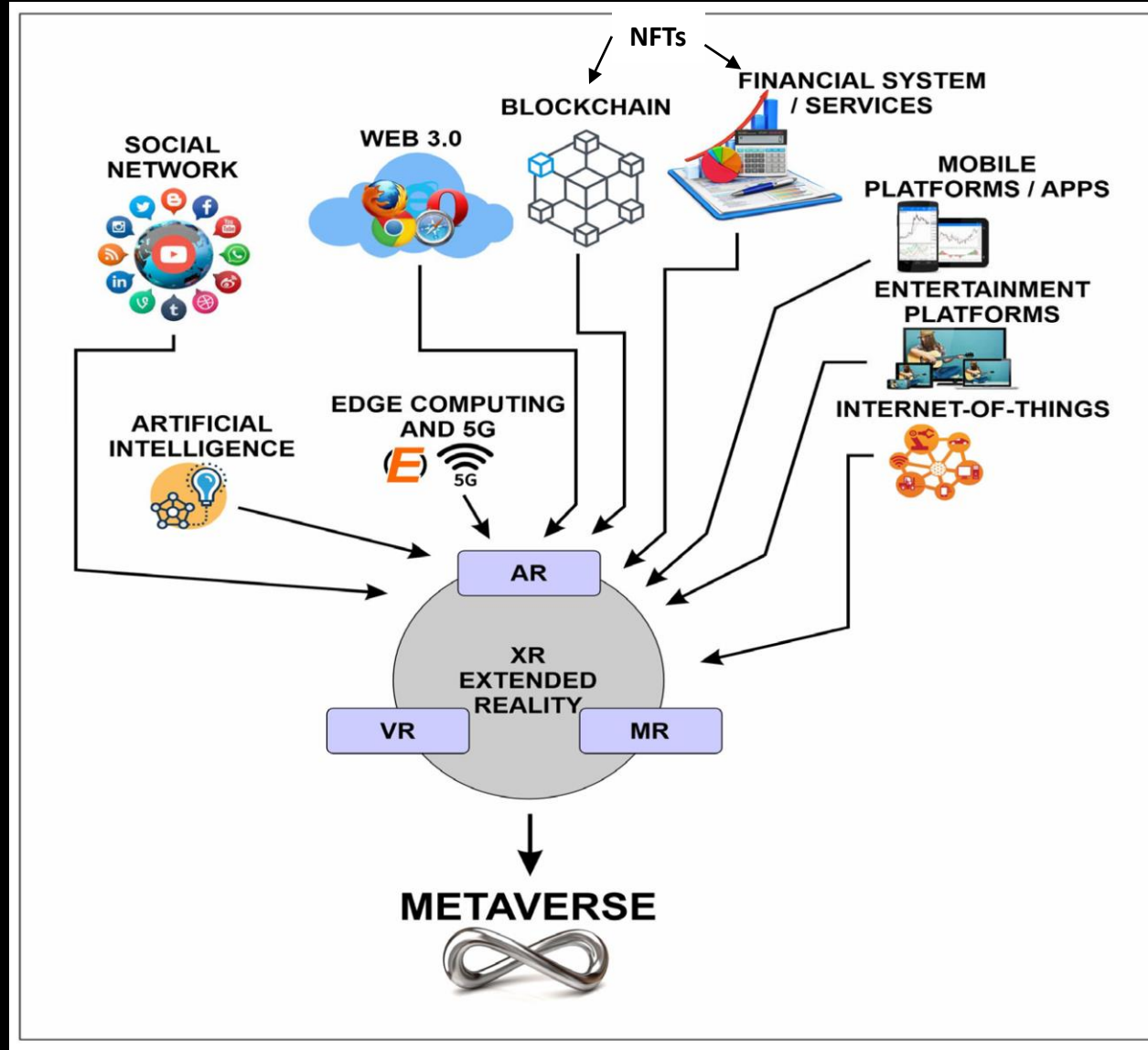
600,000,000 monthly active users of Fortnite, Minecraft, Roblox, PUBG Mobile, Sandbox, etc.



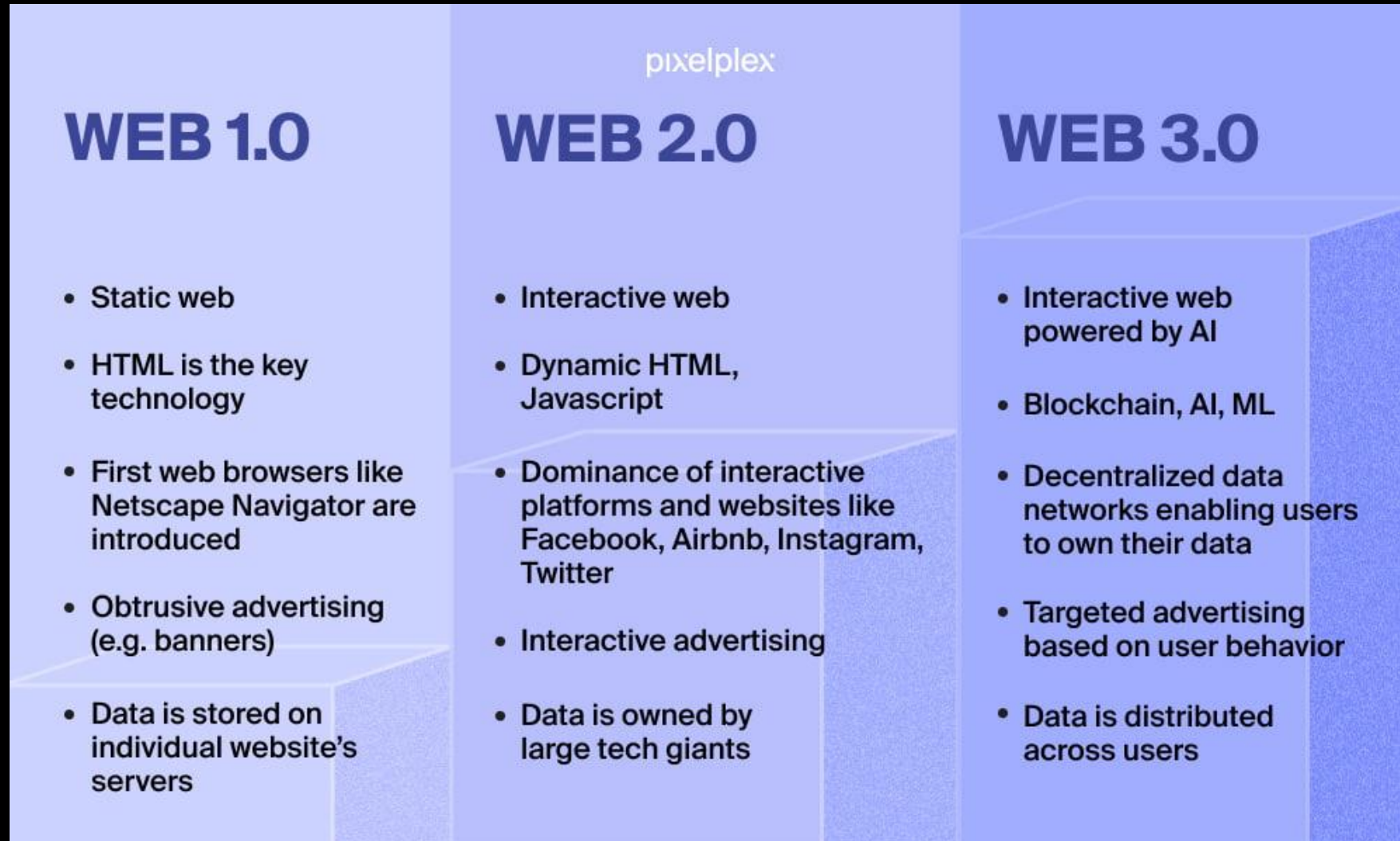
The Hype started in Octobre 2021



Common elements of the metaverse concept



What is Web 3.0?



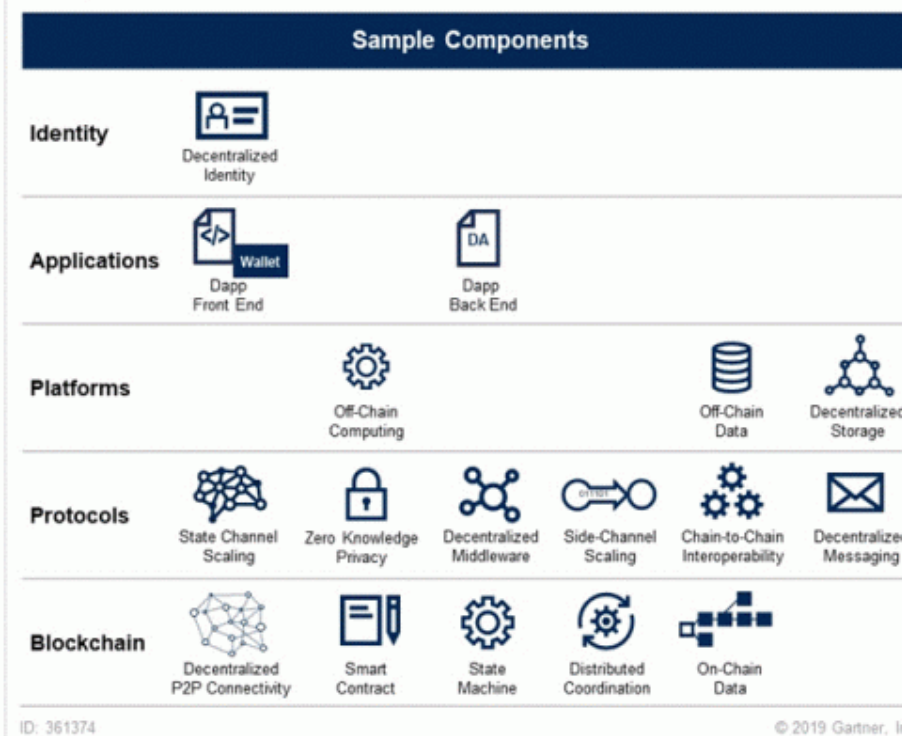
What is Web 3.0?

Web 3.0: Decentralized Web

- Users are in control of their data & identity
- Displaces platform intermediated interactions (Amazon, Facebook, Google, Uber).
- Built on Blockchain technologies:
 - trust verification
 - privacy-preserving and interoperability protocols
 - decentralized infrastructure and application platforms
 - decentralized identity



Example Decentralized Web Stack



NFTs

WHAT IS A NON FUNGIBLE TOKEN (NFT)?

UNIQUE

metadata describes what makes this asset different from all the rest

RARE

developers have the power to limit the number of rare, desirable items in existence

INDIVISIBLE

NFTs cannot be split into smaller denominations

OWNERSHIP

blockchain technology helps to prove your ownership

TRANSFERABLE

NFTs can be freely traded on specific markets

AUTHENTIC

the biggest benefit: fraud prevention



Augmented / Mixed / Virtual Reality



Smart eyewear:
An extension of glasses



Google Glass



AR/MR headsets:
An extension of computers



MS HoloLens



VR headsets:
An extension of gaming consoles



Oculus CV1

Introducing
Apple Vision Pro



Some Use Cases

Metaverse and Education



- **Virtual classrooms and e-learning:** The metaverse offers virtual educational environments, allowing students and educators to gather in virtual classrooms for interactive learning experiences.
- **Simulated practical training:** Medical, engineering, and other practical fields can benefit from metaverse technologies, providing simulated training environments for hands-on practice.
- **Access to global educational resources:** The metaverse bridges geographical gaps, providing students with access to diverse educational resources and expertise from around the world.

Metaverse and Healthcare



- **Telemedicine and remote consultations:** The metaverse enables virtual healthcare services, connecting patients with doctors through immersive video consultations and remote monitoring.
- **Virtual surgeries and medical simulations:** Surgeons can practice complex procedures and medical students can learn through realistic simulations within the metaverse, enhancing surgical skills and knowledge.
- **Patient rehabilitation and therapy in virtual environments:** The metaverse can facilitate physical and mental rehabilitation by creating immersive virtual environments for therapeutic exercises and interventions.

Metaverse and Retail



- **Virtual shopping experiences:** Users can explore virtual malls, try on virtual clothes, and purchase products within the metaverse, providing an interactive and personalized shopping experience.
- **Try-before-you-buy simulations:** Users can virtually experience products before making a purchase, reducing buyer's remorse and enhancing consumer satisfaction.
- **Personalized recommendations and virtual storefronts:** AI algorithms within the metaverse can offer tailored product recommendations based on users' preferences and behavior, while virtual storefronts provide a unique and immersive brand experience.

Metaverse and Entertainment



- **Live virtual concerts and performances:** Musicians and artists can reach a global audience by hosting live concerts and performances within the metaverse, creating immersive and interactive entertainment experiences.
- **Virtual reality movies and immersive storytelling:** Filmmakers can leverage the metaverse to create captivating virtual reality movies and interactive narratives, enabling viewers to become active participants in the story.
- **Interactive theme park experiences:** Theme parks can utilize metaverse technologies to offer interactive and immersive rides and attractions, merging physical and virtual elements for an unforgettable experience.

Metaverse and Real Estate



- **Virtual property tours and inspections:** Real estate agents can showcase properties through virtual tours, allowing potential buyers to explore and evaluate properties remotely.
- **Virtual staging and interior design:** The metaverse enables virtual staging, allowing users to visualize different furniture arrangements and interior designs in a virtual representation of their real-world spaces.
- **Immersive architectural visualization:** Architects and developers can use the metaverse to present their designs in an immersive virtual environment, enabling clients to experience and provide feedback on the future projects.

Consumer protection in the Metaverse

There are many potential issues...

Privacy: Users' personal information, virtual activities, and interactions may need to be protected from unauthorized access or misuse.

Security threats: hacking, fraud, or identity theft.

Intellectual Property: Users' creations, and digital assets could be subject to unauthorized copying, distribution, or infringement.

Virtual Asset Scams: scams related to virtual assets, virtual currencies, or in-game purchases may become prevalent.

Exploitative Practices: exploitative practices targeting vulnerable users, such as children or individuals susceptible to addiction.

Consumer Disputes: Clear guidelines and procedures for dispute resolution in a decentralized system.

User-generated Content: Issues like copyright infringement, defamation, or offensive content may arise.

Accessibility: The metaverse should be accessible to all users, ensuring equal opportunities for participation and engagement.

Data Ownership and Portability: Users should have control over their personal data generated within the metaverse.

Financial Regulations: As virtual currencies and economies grow within the metaverse, regulatory frameworks may need to be developed to prevent money laundering, fraud, or illegal financial activities.

→ It is important to address these concerns proactively to ensure a safe and trustworthy metaverse experience.

Where are we today?

Metaverse Ecosystem



Source: Newzoo's 2021 Global Games Market Report | Into the Metaverse trend report
newzoo.com/globalgamesreport



Entering the metaverse market: key players in Luxembourg
MARKET INTELLIGENCE REPORT
Luxinnovation



WHAT YOU HOPE

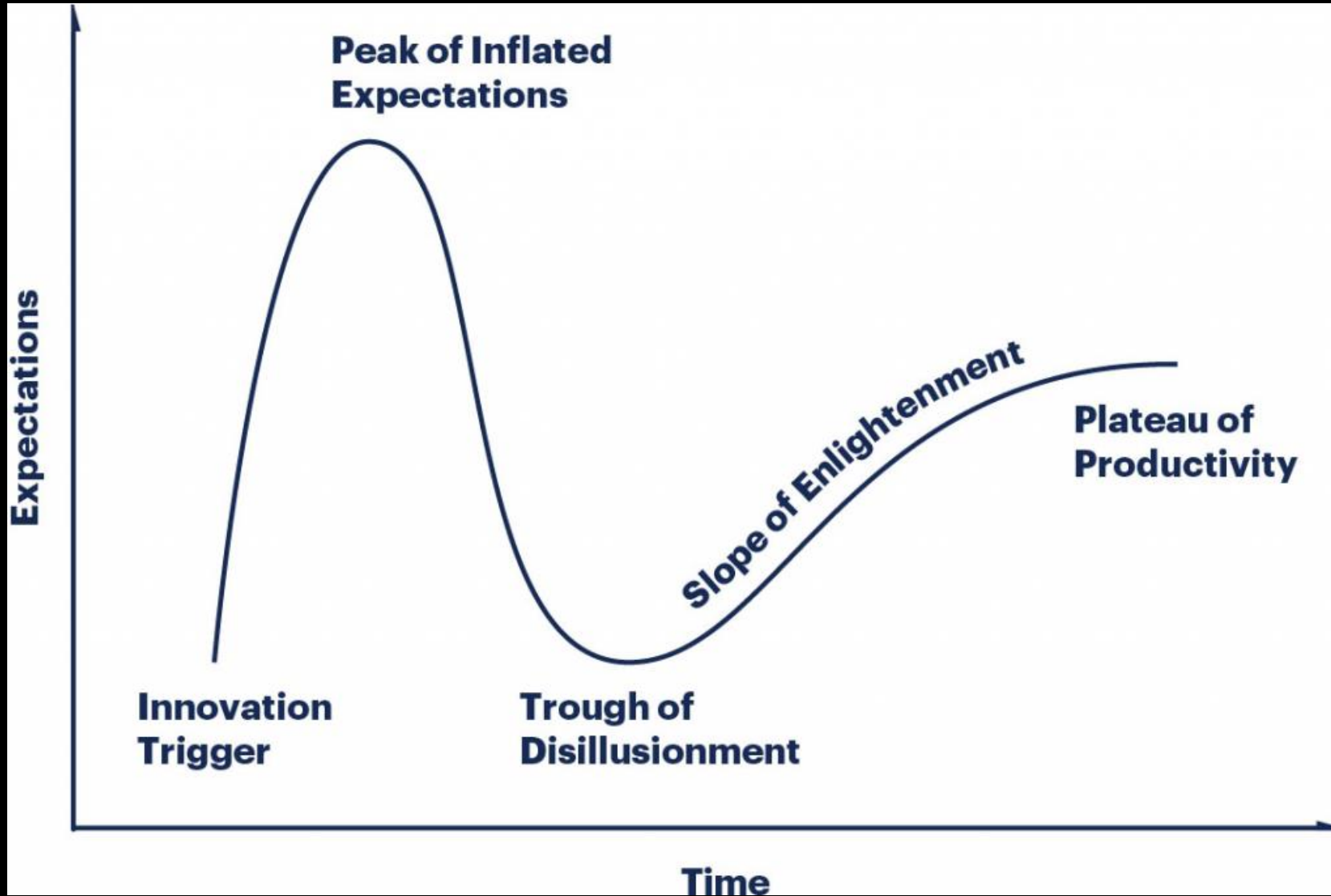


WHAT THEY HAVE PROMISED



WHAT YOU REALLY GET

Gartner Hype Cycle



The metaverse enters the Gartner hype cycle (but with a 10+ years outlook)

🕒 AUGUST 20, 2022

👤 BY SKARREDGHOST

STAMFORD, Conn., February 7, 2022

Gartner Predicts 25% of People Will Spend At Least One Hour Per Day in the Metaverse by 2026

Metaverse Hype to Transition into New Business Models that Extend Digital Business

R.I.P.
METAVVERSE
2021-2023

NOT YET

The question is when not if...



Artificial intelligence is THE GAME CHANGER for the metaverse

- to automatically produce content
- to monitor interactions
- to analyse data
- to provide customized experiences
- etc...

Thank you