89%+ of GenAI companies have been founded since Google’s landmark transformation model paper was released in 2017.

What made LLMs possible?

01 Breakthroughs in algorithm development: transformer architecture, self-supervised and transfer learning

02 Availability of large volumes of various types of data, including text and images for model training

03 Significant increase in available computational power and reduced cost

Legend:
- Foundational AI
- Fine-tuned AI
- Customer Sup.
- Marketing & Sales
- Product Dev.
- Sup. Functions

1) Transformer is a deep learning model. Transformers were introduced in 2017 by a team at Google Brain, allowing training on larger datasets which led to the development of pretrained systems like original GPT (generative pre-trained transformer).
We have identified 167 Gen AI FinTechs globally that raised $17.2B to date in 2 key segments

<table>
<thead>
<tr>
<th>Platform Solutions²</th>
<th>Business Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solution strategy</strong></td>
<td><strong>Provide GenAI enabled solutions across the banking value chain</strong></td>
</tr>
<tr>
<td>Provide the requisite technologies that enable GenAI use cases</td>
<td>Provide GenAI enabled solutions to financial institutions across value chain (Marketing and Sales, Product Development, Customer Support and Corporate Functions)</td>
</tr>
<tr>
<td>Provide the requisite technologies that enable GenAI use cases and help financial institutions adapt these tools to existing tech stack</td>
<td>These are end user facing solutions without any proprietary models</td>
</tr>
<tr>
<td>Range from foundation models trained on industry or customer specific data to Large-scale, pre-trained models that are exposed via APIs</td>
<td>Total 147 Companies ($2.8B)¹</td>
</tr>
<tr>
<td><strong>Total 20 Companies ($14.4B)³</strong></td>
<td><strong>Marketing &amp; sales. (#93, $1.1B)</strong></td>
</tr>
<tr>
<td>• Foundational AI (#12, $14.3B)³</td>
<td>• Customer Support (#20, $0.9B)</td>
</tr>
<tr>
<td>• Fine Tuned AI (#8, $0.1B)</td>
<td>• Product Development (#17, $0.7B)</td>
</tr>
<tr>
<td><strong>Examples</strong></td>
<td>• Supporting Corporate Functions (#17, $0.1B)</td>
</tr>
</tbody>
</table>

1. Number of companies includes operating, operating subsidiaries, acquired and IPOed firms founded between 2016-2023 YTD (May 2023), Cumulative Equity funding 2012-2023 YTD (May 2023)
2. Platform solutions are part of Data and Digital Platform (DDP)
3. Include $11.3B equity funding for OpenAI

Note: Include GenAI companies that serve multiple industries alongside FS, such as Public Sector, Telco, Consumer and Industrial Goods

Source: BCG FinTech Control Tower
Deep Dive | GenAI Business Solutions currently target mainly four areas across the banking value chain

1. Marketing & Sales
   - Identifying and acquiring new customers
   - Creative content and collateral development, including personalization
   - Customer segmentation and sentiment analysis
   - Web/app landing page personalization (content, visual assets)
   - Client acquisition chatbots for warming leads, engagement
   - Sales training for simulating client conversations

2. Onboarding
   - Customer document and information validation
   - Intelligent document processing
   - Document synthesis for financial product approval & review
   - Suggest tailored product offerings based on uploaded data
   - Initial fact find for a new clients
   - Chatbot assistance during onboarding

3. Product development
   - Creation of a unique financial services product
   - Supportive programming, developing, and documentation
   - Synthetic data for customer profiles and model training
   - Helping users discover financial products tailored to their needs
   - Pricing and fee optimization
   - Identification of emerging product trends to support product teams
   - Scanning data to influence creation of innovative & hyper-personalized financial products & features

4. Financial Advice
   - Generating recommendations with research and analysis
   - Investment reports and research synthesis
   - Support RM / FAs for client interactions with memos, analytics, performance monitoring
   - Synthesized, tailored reports for customer distribution based on individual interests
   - Performance Monitoring & Optimization across Client Portfolio’s with Automated Notifications
   - Suggest tailored product offerings based on uploaded data

5. Risk & Compliance
   - Identification and management of potential risks
   - Support in the drafting of memos, analytics, etc.
   - Customer service support interface and chatbot
   - Policy/contract monitoring and synthesis
   - Knowledge base search
   - Chat/email monitoring to suggest course of action for “toxic” conversations

6. Advisor & Customer Support
   - Relationship management and customer service
   - Knowledge Database for Legal Teams
   - AML checks & synthesis creation
   - Compliance monitoring and document creation
   - Data privacy & transaction monitoring

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Source: BCG analysis and BCG Fintech Control Tower

May 2023 - Rapidly evolving space - we expect more GenAI FinTechs to emerge that address use cases along specific FI verticals
2023 YTD saw $12.5B\(^1\) raised in equity funding globally, representing a steep 542% increase compared to 2022, and growing at a CAGR of 84%.

Funding growth has been driven by large funding rounds across categories e.g.:
- Foundational AI players (besides OpenAI) such as Anthropic, Inflection
- Customer Support players such as Algolia, Forethought
- Marketing & Sales such as Character.ai

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1. $10B from OpenAI
2. As of May 30\(^{th}\), 2023; Source: BCG FinTech Control Tower
All the top 10 highest funded Gen AI FinTechs are headquartered in the US, of which half operate in the Foundational AI cluster

Top 10 highest funded Generative AI companies globally

<table>
<thead>
<tr>
<th>Company</th>
<th>Founded</th>
<th>Product</th>
<th>Description</th>
<th>Equity funding</th>
<th>Selected investors</th>
</tr>
</thead>
<tbody>
<tr>
<td>OpenAI</td>
<td>2015</td>
<td>Foundational AI</td>
<td>Leverages AI research and deployment for building artificial general intelligence and generative AI tools</td>
<td>$11.3B</td>
<td>Microsoft, SE001A, Combinator</td>
</tr>
<tr>
<td>ANTHROPVC</td>
<td>2021</td>
<td>Foundational AI</td>
<td>AI-driven safety and research company that focuses on building reliable, interpretable, and steerable AI systems</td>
<td>$1.3B</td>
<td>SPARK CAPITAL</td>
</tr>
<tr>
<td>ADEPT</td>
<td>2022</td>
<td>Foundational AI</td>
<td>ML research and product lab that automates software processes &amp; builds general artificial intelligence systems</td>
<td>$415M</td>
<td>greylock, SyAngel, PSP Partners</td>
</tr>
<tr>
<td>GitHub</td>
<td>2008</td>
<td>Foundational AI</td>
<td>AI-powered developer platform that helps users build, scale, and deliver high quality and secure software. Acquired by Microsoft in June 2018 for $7.5B</td>
<td>$350M</td>
<td>Microsoft, SE001A, PIONEER FUND</td>
</tr>
<tr>
<td>Algolia</td>
<td>2012</td>
<td>Advisor &amp; Customer Support</td>
<td>AI search &amp; discovery platform that uses API to implement search within websites, mobile, and voice applications</td>
<td>$334M</td>
<td>Accel, Index Ventures</td>
</tr>
<tr>
<td>C3.ai</td>
<td>2009</td>
<td>Fine-tuned AI</td>
<td>Enterprise AI application software provider building AI platform, applications and Generative AI products</td>
<td>$228M</td>
<td>TPG, SUPERiterals, INTERWEST PARTNERS</td>
</tr>
<tr>
<td>Inflection</td>
<td>2022</td>
<td>Foundational AI</td>
<td>Multi-disciplinary AI studio creating conversational AI for redefining human-computer interaction</td>
<td>$225M</td>
<td>Undisclosed</td>
</tr>
<tr>
<td>Replit</td>
<td>2016</td>
<td>Product Development</td>
<td>Provider of browser-based integrated development environment (IDE) for cross-platform collaborative coding</td>
<td>$202M</td>
<td>Combinator, COATUE, Reach Capital</td>
</tr>
<tr>
<td>Runway</td>
<td>2018</td>
<td>Marketing &amp; Sales</td>
<td>Offers AI-based research and builds content creation tools focused on video automation and synthetic media</td>
<td>$198M</td>
<td>Amplify, Felicis, Madrona</td>
</tr>
<tr>
<td>Glean</td>
<td>2019</td>
<td>Advisor &amp; Customer Support</td>
<td>Enterprise AI workplace search and knowledge discovery platform for aggregated search across tools and content</td>
<td>$195M</td>
<td>Lightspeed, GENERAL, CATALYST</td>
</tr>
</tbody>
</table>

Source: BCG FinTech Control Tower
Leading banks and financial players can take five common approaches towards generating value from GenAI

**Select Examples**

<table>
<thead>
<tr>
<th>Source: BCG FinTech Control Tower</th>
</tr>
</thead>
</table>

### Capital Investment

**Description**

Incumbents participate in a funding round raised by FinTechs who focus on GenAI-powered solutions.

**Outcome**

- Shape FinTech innovation journey, validate products cross-industry

**Examples**

- J.P. Morgan
- CRESTA

### In-house Incubation

**Description**

FIs and financial software players self-develop, launch GenAI products, building their proprietary foundation model leveraging own dataset to train the model.

**Outcome**

- Product ideation, implementation and B2B Gen AI solution

**Examples**

- SMBC
- SOUNDRAW
- Bloomberg GPT
- Fidelity
- Algolia

### Big Tech Partnership

**Description**

Tech giants form partnership with GenAI startups or Financial Institutions

**Outcome**

- New GenAI powered product/service or GenAI-first business entity that focus on new business model

**Examples**

- OpenAI
- Klarna
- Stripe
- Morgan Stanley

### White Label

**Description**

Incumbents and FinTechs leverage GenAI FinTech business solutions for specific use cases.

**Outcome**

- Customized GenAI-powered product/solution

**Examples**

- OpenAI
- Deutsche Bank

### Infrastructure Partnership

**Description**

Incumbents rent Tech stack from Foundational AI Platform FinTechs and start using it for GenAI use cases.

**Outcome**

- Stack rent

**Examples**

- Nationwide
- Wells Fargo
- Google
- NVIDIA
FinTech Control Tower (FCT) report
GenAI in Banking Startups 2023

What this report covers
- How companies are developing GenAI solutions for banking across all layers of the stack
- Landscape of GenAI in Banking startups
- Five common approaches banks and financial players can take towards generating value from GenAI

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Vince Montalbano
Partner
Sandeep Sankaran
Lead Venture Architect

Source: BCG FinTech Control Tower

GenAI in Banking in Numbers:
- 167 GenAI startups with FI use cases, have raised
- $17.2B ($11.3B for OpenAI) in equity funding

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