



ARTEFACT

AI IS ABOUT PEOPLE

EXPLORING THE IMPACTS of Agentic AI on the Relationship with *HCPs*



WHO WE ARE:

Authorship & Team

The Authorship team is made up of multidisciplinary professionals with expertise in data, technology, business, and innovation. The entire Artefact team works collaboratively to deliver high-impact solutions, always aligned with our clients' needs.

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ABOUT AUTORSHIP

Artefact

Artefact accelerates the adoption of data and Artificial Intelligence to positively impact people and organizations. We offer a wide range of services, from strategy to operations, implementing AI solutions across industries to help companies capture the competitive advantage of data and AI transformation.

in  



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Summary



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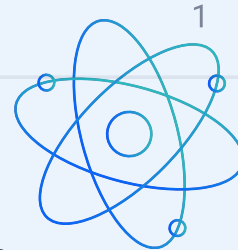
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Unraveling *Agentic* AI in the Context of Healthcare

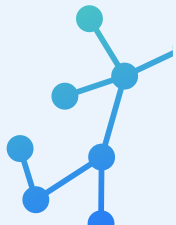
The healthcare ecosystem is vast and complex, involving multiple actors such as patients, pharmaceutical companies, hospitals, health plan operators, regulators, and, of course, healthcare professionals — HCPs. Among all these stakeholders, HCPs play a unique and strategic role: they are the trusted intermediaries between the industry and the patient. They recommend treatments, prescribe medications, monitor patient progress, and often directly influence treatment adherence.

For this reason, over the last few decades, the pharmaceutical and healthcare industry has been investing heavily in building and maintaining relationships with these professionals. According to data from Evaluate Pharma and McKinsey, globally around 30% of pharmaceutical companies' commercial budgets are allocated to HCP engagement initiatives, representing over US\$ 90 billion per year — these initiatives include actions by medical representative teams, scientific congresses, in-person events, continuing medical education, and distribution of technical and scientific materials. In Brazil, large groups allocate between 15% and 25% of their marketing and relationship budgets to actions directly aimed at HCPs.

The return on these investments, although difficult to measure accurately, is of significant strategic importance: studies indicate that up to 60% of prescription and medical recommendation decisions can be directly influenced by interactions between companies and healthcare professionals. In other words, the impact of these relationships is profound — yet still underutilized in terms of scale, personalization, and intelligence.

It is in this context that Agentic AI emerges as a game-changer. By combining LLMs (Large Language Models) with autonomous and interactive decision flows, it opens up the possibility of scaling relationships with HCPs in a more personalized, efficient, and data-driven way.

It is not just about replacing in-person visits, but about reimagining the medical-industrial relationship as an intelligent digital ecosystem, where AI agents can:

- 
-  Answer scientific questions in real-time, based on the latest publications and research;
 -  Help HCPs develop through personalized learning paths, with varied content based on detected knowledge gaps or the demonstrated interests of each professional;
 -  Anticipate the most relevant topics for each HCP, analyzing behavior patterns, preferences, and contextual data;
 -  Assist in clinical decision-making, suggesting evidence and options based on similar cases;
 -  Personalize content through dynamic persona generation, based on interactions and content consumption, enabling real-time micro-segmentations;
 -   Collect systematic feedback naturally (including sentiment analysis), measuring the depth and effectiveness of each interaction to generate richer and more actionable insights for optimizing strategies;
 -  Execute complex engagement journeys without overwhelming human teams (omnichannel orchestration).

In this ebook, we will explore how Agentic AI can reshape this relationship, bringing greater ROI, a better experience for the HCP, and more impact on patient care.

Enjoy your reading!

Agentic AI is more than just a tool – it's a catalyst for the healthcare industry. In addition to optimizing the current ROI of investments with HCPs, Agentic AI offers a unique opportunity for the healthcare sector to *fundamentally redefine its role in the patient journey*. By empowering HCPs with predictive insights and personalized support, we are building a smarter, more proactive, and patient-centered ecosystem – one where the relationship between the industry, the professional, and the patient becomes more collaborative and impactful.

Alexandra Mangeard, Managing Partner Brasil

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Chapter 1

The New Scenario in the Healthcare Sector



Digitization, data, and the new patient behavior



The healthcare sector is experiencing a turning point. The convergence of digital transformation, changing patient behavior, and expanded access to data about HCPs (healthcare professionals) is creating a new competitive landscape — where maintaining relevance requires more than good campaigns: it demands offering real, continuous, and personalized value.

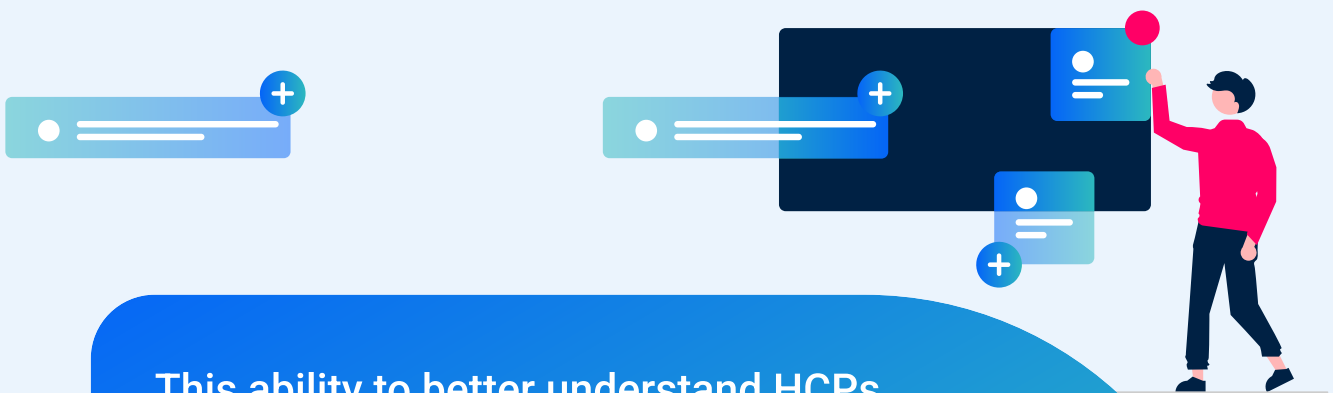
The digitalization of interactions with healthcare professionals has created a highly fragmented ecosystem, but also one full of opportunities. The number of new digital services aimed at HCPs has skyrocketed in recent years, ranging from clinical platforms (such as Memed, Mevo, iClinic) to AI-based medical decision support systems. Some of these solutions add value and strengthen relationships with doctors, but many others contribute to a scenario of noise, dispersion, and information overload.

At a relatively low cost, it is possible to build extremely rich and dynamic profiles of these professionals. Sources such as LinkedIn (professional history), Memed (prescription patterns), Google Maps (patient feedback), medical portals (browsing behavior and scientific interest), social networks (networking structure), and clinic ERPs have begun to offer valuable inputs to personalize interactions, predict needs, and accurately measure engagement. What was once built based on inference can now be managed with concrete and actionable data.



At the same time, we now have access to an unprecedented volume of data about HCPs.

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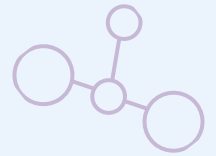
This ability to better understand HCPs becomes even more critical in the face of a structural change: doctors are losing some of their influence over patient decisions.

The modern patient is digital, autonomous, and informed — or at least believes to be. Before, the doctor's word was indisputable. Today, patients resort to tools such as ChatGPT, YouTube, and Google before consulting a healthcare provider or purchasing medication. And this is not just an impression — there is concrete data that demonstrates this change in behavior.

In the United States, a survey of 2,000 adults revealed that **52% have already used AI systems, such as ChatGPT, to describe their symptoms.** Of these, **84% stated that the diagnosis provided was correct,** reinforcing patients' growing trust in AI-based technologies for initial healthcare.

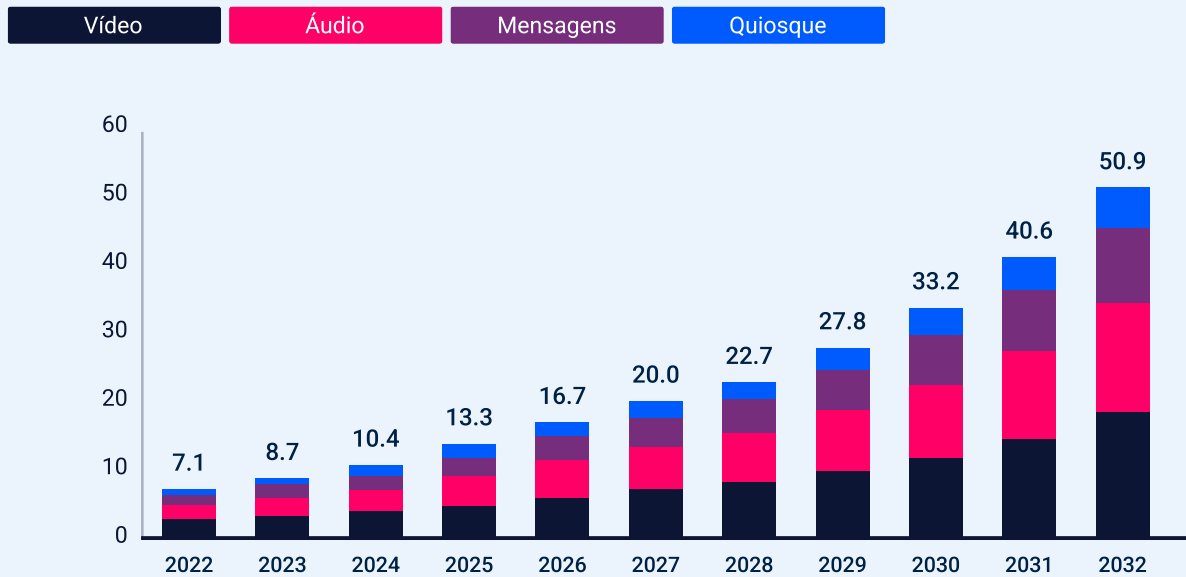
In Australia, a study conducted in June 2024 with over 2,000 participants indicated that **9.9% used ChatGPT for health-related questions** in the first half of the year alone. Additionally, **38.8% of those who have not yet used it are considering doing so in the next six months,** which demonstrates the potential for expansion of this type of use.

When it comes to social networks, a recent global report pointed out that over 60% of people use these platforms to seek health information, with prominence for channels such as YouTube, WhatsApp, and Facebook. This search for content in alternative sources shows that the contemporary patient is more active, curious, and digitally empowered — factors that challenge and simultaneously create opportunities for healthcare brands.



Global Virtual Healthcare Services Market

Size, by Mode of Consultation, 2022–2032 (Billion USD)

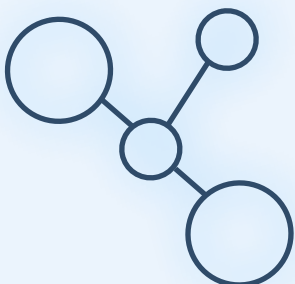


THE MARKET WILL
GROW AT A CAGR OF

22.4%

PROJECTED MARKET SIZE BY
2032 IN USD

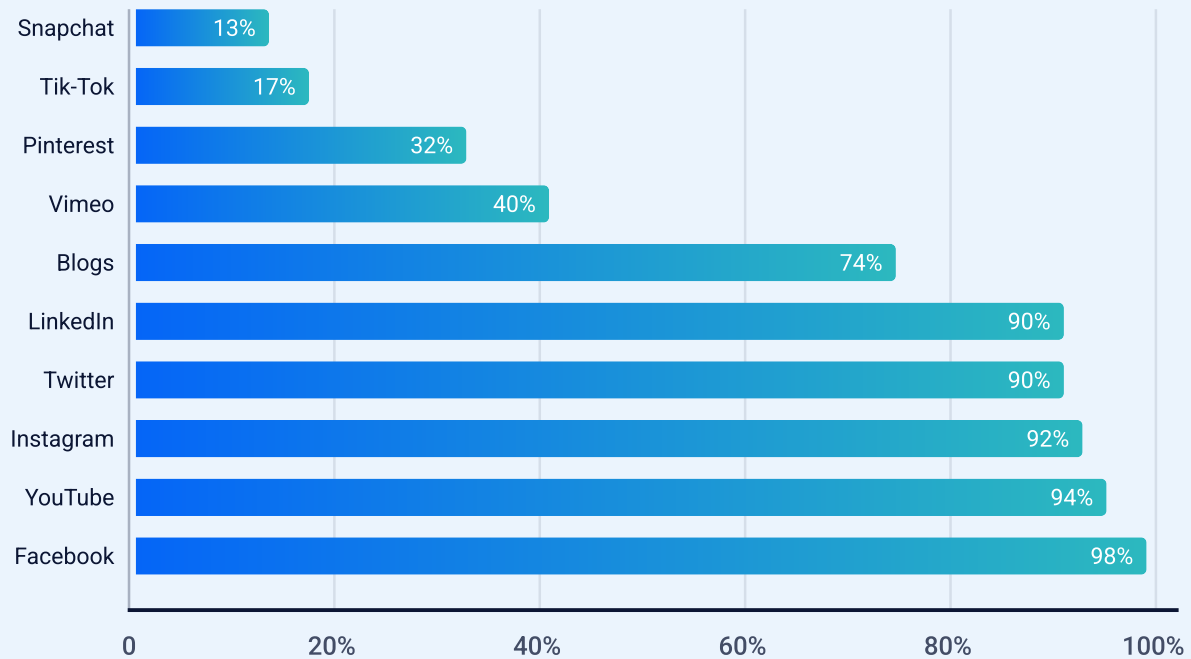
\$50.9 B





Use of Social Media in Healthcare Marketing

Social Media Usage (March 2022)



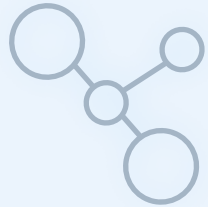
Media Usage in %

Source: Market.us Media

This transformation is accentuated by a new service delivery logic. Many HCPs have started to act as "personal brands" and have diversified their patient care approaches. Full check-ups, prevention programs, telemedicine consultations, and continuous digital support via apps or messages have become part of the new value offering of these professionals. And with the rising cost of health plans, patients of different profiles are beginning to seek alternative solutions — including the free use of artificial intelligences for basic guidance. The HCP, therefore, needs to reinvent themselves: they cease to be merely a prescriber and also become a relationship manager with the patient.

In this new scenario, brands operating in healthcare need to do more than communicate: they need to facilitate.

Supporting the HCP with reliable scientific content, market data, technologies that integrate their care, and tools that sustain their reputation can be the path to establishing a new partnership relationship.



But this facilitation needs to go beyond personalization based solely on the profile:

it is essential to also consider the specific moment of each professional — their career stage, their current clinical context, their daily priorities, and even their level of prior exposure to the brand. This dynamic approach allows delivering the right content, on the right channel, at the most relevant moment.



It is a moment of transition — where scientific marketing, CRM, and artificial intelligence meet to offer smarter, more responsive, and truly physician-centric journeys in their real context of action.





Chapter 2

What is Agentic AI?



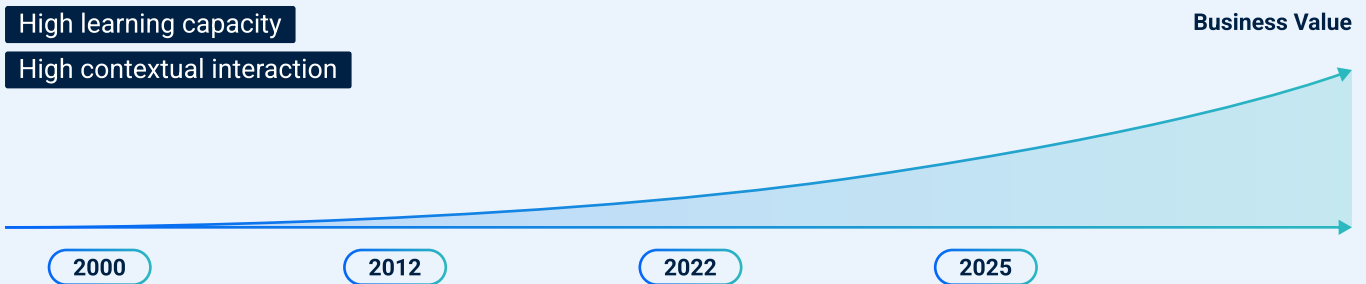
Agents represent a recent technological advance, with great potential to increase value for companies

From RPA to Agentic AI, the business value of intelligent systems has increased tenfold through:

High adaptability to the environment

High learning capacity

High contextual interaction



RPA supremacy

Automation of back office operations with simple and static logic orchestration in monotonous tasks.

Traditional AI democratization

Revolutionizing processes with **unparalleled precision**, harnessing immense amounts of data to **perform tasks beyond human reach** (Predictive maintenance, forecasting, optimization)

Generative AI diffusion

Widely adopted for **simplifying various tasks thanks to a variety of specialized assistants** in everyday life, through **information retrieval, document production, synthesis...**

Agentic AI ascension

Agentic AI mimics human reasoning and autonomously explores **complex problems, executes actions and makes decisions.**

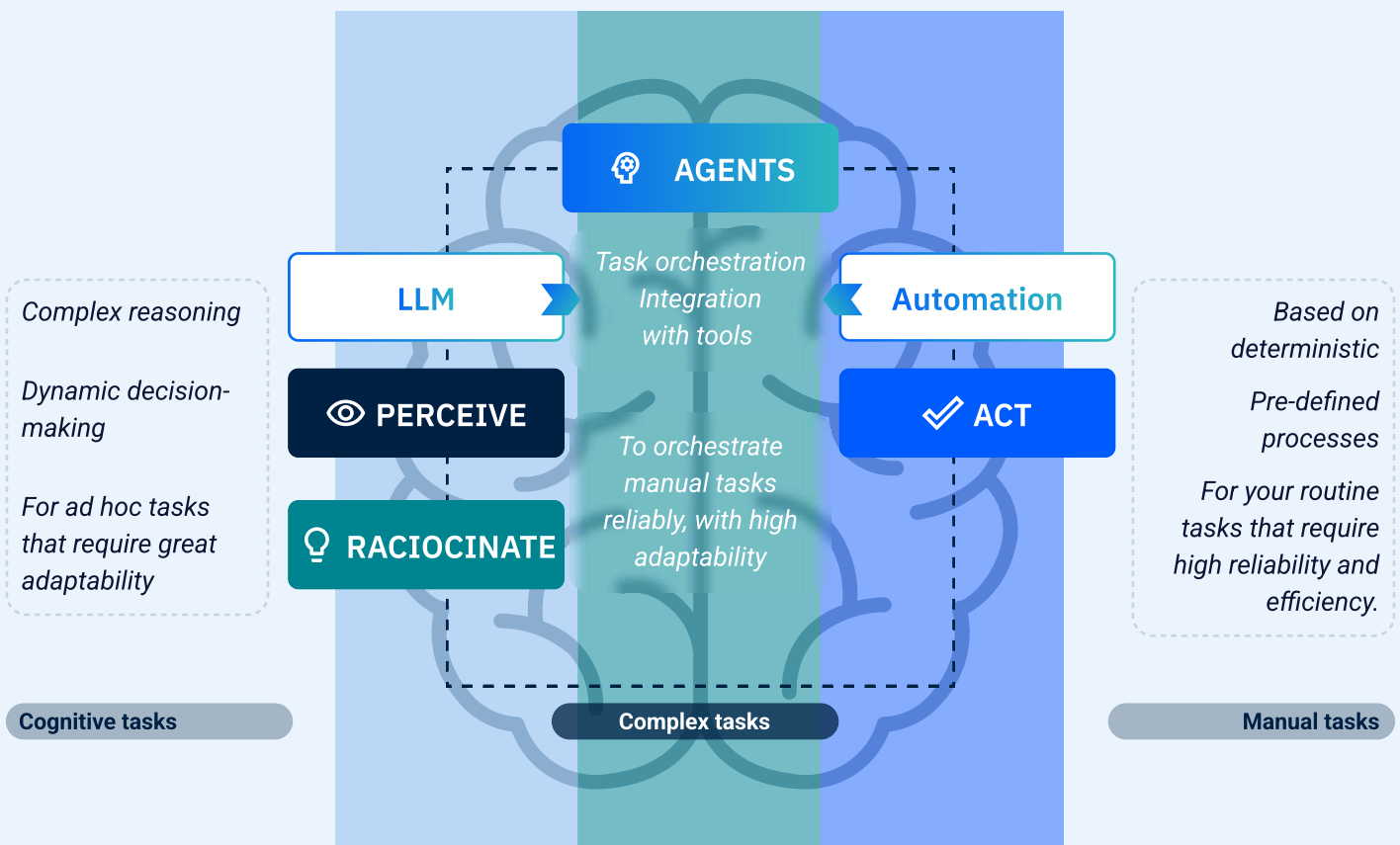


As the healthcare ecosystem reinvents itself with new demands from professionals, patients, and pharmaceutical industries, technologies are also going through a decisive moment of transformation. In this context, Artificial Intelligence enters a new phase with the emergence of Agentic AI.

This approach combines:

- ✓ **Generative AI** that interprets complex contexts and generates decisions in natural language.
- ✓ **Autonomous agents** that execute tasks with minimal human intervention.
- ✓ **Real-time data** that enables contextualized and adaptive decision-making.

Agentic AI systems combine RPA and Generative AI for agents to perform tasks autonomously



Furthermore, Agentic AI solutions differentiate themselves by integrating technologies such as RAG (Retrieval-Augmented Generation) that allow agents to consult external sources in real-time before making decisions, increasing accuracy; AI pipelines that can automate the complete flow of ingestion, processing, and decision, connecting data to action; and orchestration that coordinates various agents simultaneously, ensuring they operate synchronously and efficiently.

This combination allows systems to perceive, plan, and act, transforming analytical operations into active and continuous value generation, something previously very complex to achieve with approaches using traditional AI, for example.

OPERATIONAL CAPABILITY	CONVENTIONAL AI	AGENTIC AI
Execution Method	Static / Reactive	Continuous / Proactive
Input Type	Fixed and structured data	Dynamic prompt + real-time context
Adaptability	Low (ad hoc, with human intervention)	High (adapts decisions according to the environment)
Iteration and Learning	Limited to static training; no feedback during execution	Acts, observes, adjusts, replans
Data Integration	Limited and pre-configured	Dynamic, with RAG and APIs connected in real-time

In the current Healthcare scenario, where the complexity of interactions with HCPs continuously grows, the ability to transform processes becomes essential to ensure efficiency, agility, and accuracy.

The operational routine is often marked by reactive actions, system fragmentation, excessive manual tasks, and alignment challenges between areas. Identifying the right intervention points is the first step to simplify, scale, and improve the journey, engagement, and support for HCPs.

The ideal process should include

Example of application with Agentic AI

1. Manual, chronological, and repetitive tasks

Automatic sending of scientific newsletters or event reminders to HCPs on predefined dates

2. Large volume of data to be processed

Automated analysis of interactions with HCPs to generate personalized insights based on history and profile

3. Multiple platforms without added value

Integration of CRM, email system, and medical repository into a single HCP service interface

4. Many stakeholders involved (e.g., medical, legal, compliance)

Automation of material approval flow before sending to HCP, with alerts and input from relevant stakeholders

5. Different areas involved (medical, regulatory, commercial)

Automatic alignment of scientific messages with promotional material, reducing rework and inconsistency

Organizations that have adopted GenAI-based solutions have already reported significant gains, such as a **reduction in operational task execution time by up to 40% and a 30% increase in the efficiency of medical and commercial teams** by minimizing rework, according to a study published by McKinsey & Company (2023).

In addition, AI-driven platforms have improved the personalization of interactions with healthcare professionals by up to 50% (Accenture Digital Health Tech Vision, 2023), promoting greater engagement and accuracy in scientific campaigns.

With the emergence of Agentic AI, these impacts are expected to be amplified, given its potential to orchestrate complex tasks autonomously and adaptively.



Chapter 3

Challenges & Opportunities with **Agentic AI**

The Four Critical Challenges in the Relationship with HCPs – And How Agentic AI Can Overcome Them

The relationship between the healthcare industry and healthcare professionals (HCPs) has never been simple. It demands scientific precision, human empathy, communication consistency, and adaptability. And despite digital innovations in recent years, many fundamental challenges remain relevant – they have only changed form.

In this chapter, we will examine four of these structural challenges and how Agentic AI can offer disruptive and scalable solutions.

1 Volumetry

How to reach and connect with all HCPs?

Yesterday

The traditional model was centered on in-person visits by medical representatives. Although effective for certain profiles, this model was limited by logistics, high costs, and low scalability. This limitation is especially critical considering that 68% of doctors prefer online communication, with 80% using smartphones and 75% participating in exclusive networks for doctors [Doceree]. The traditional model simply cannot meet this digital demand.



Today

Digital marketing seeks to overcome this limitation with email campaigns, programmatic media, and webinars. But the content is still cold, generic, and often irrelevant to the HCP's current moment. This generic approach ignores the vast and diverse universe of healthcare professionals in Brazil, estimated at almost 4 million by their respective federal councils, making it practically impossible to create messages that resonate with each individual in such a broad market.

Tomorrow

We can imagine a solution where each HCP interacts with a digital agent specifically trained for their clinical profile, specialty, and journey. This "Sales Rep Agentic Hub" would be available 24/7, with medical language, personalized and updated content, and could scale coverage intelligently, without losing the depth of human interaction.

2 Quality

Are we delivering the right information to the right HCP?

Yesterday

The focus was 100% on the product. Communication followed a "one size fits all" logic, centered on benefits and technical characteristics. This generic approach ignores the fact that 57% of doctors changed their perception of a drug based on information seen on social media, and 41% altered their prescribing habits as a result [Sermo and LiveWorld]. "One size fits all" communication misses the opportunity to positively influence clinical decisions.

Today

With CRM and marketing automation tools, we are beginning to move towards personalization, segmenting by specialty, digital behavior, and stated preferences.



Tomorrow

Real-time hyper-personalization will become the new standard. Using historical, contextual, and predictive data, intelligent agents will be able to deliver individualized Next Best Actions (NBAs), whether with scientific content, an invitation to a congress, or a clinical update. For example, if a doctor has recently attended a webinar on a new treatment for diabetes, the agent could send a relevant scientific article on the topic, an invitation to a specialized congress, or a clinical update on the latest advances – all automated, yet relevant and reliable.

3

Frequency

How to maintain “top of mind” among so many competing interactions?

Yesterday

Frequency was addressed through constant visits, regardless of effectiveness or need. This generated saturation and low marginal return. This intrusive and impersonalized approach contributes to the information overload that affects 62% of healthcare professionals, who feel overwhelmed by the volume of promotional content, and to the negative perception of “spam,” reported by 65% of doctors, according to research. Frequency alone does not guarantee engagement, and can even be counterproductive.

Today

Commercial teams attempt to optimize their routes with prioritization and segmentation tools, but frequency still depends on the physical capacity of the teams.

Tomorrow

Omnichannel orchestration with Sales Rep Agentic Hub will allow continuous and contextual presence, integrating messages via email, WhatsApp, medical portals, and even voicebots, creating journeys that keep the brand active even between in-person visits – always in the right tone, on the right channel, and at the right time, avoiding unnecessary repetition of messages across different channels.

4

Trust

How to build a long-term relationship and real partnership?

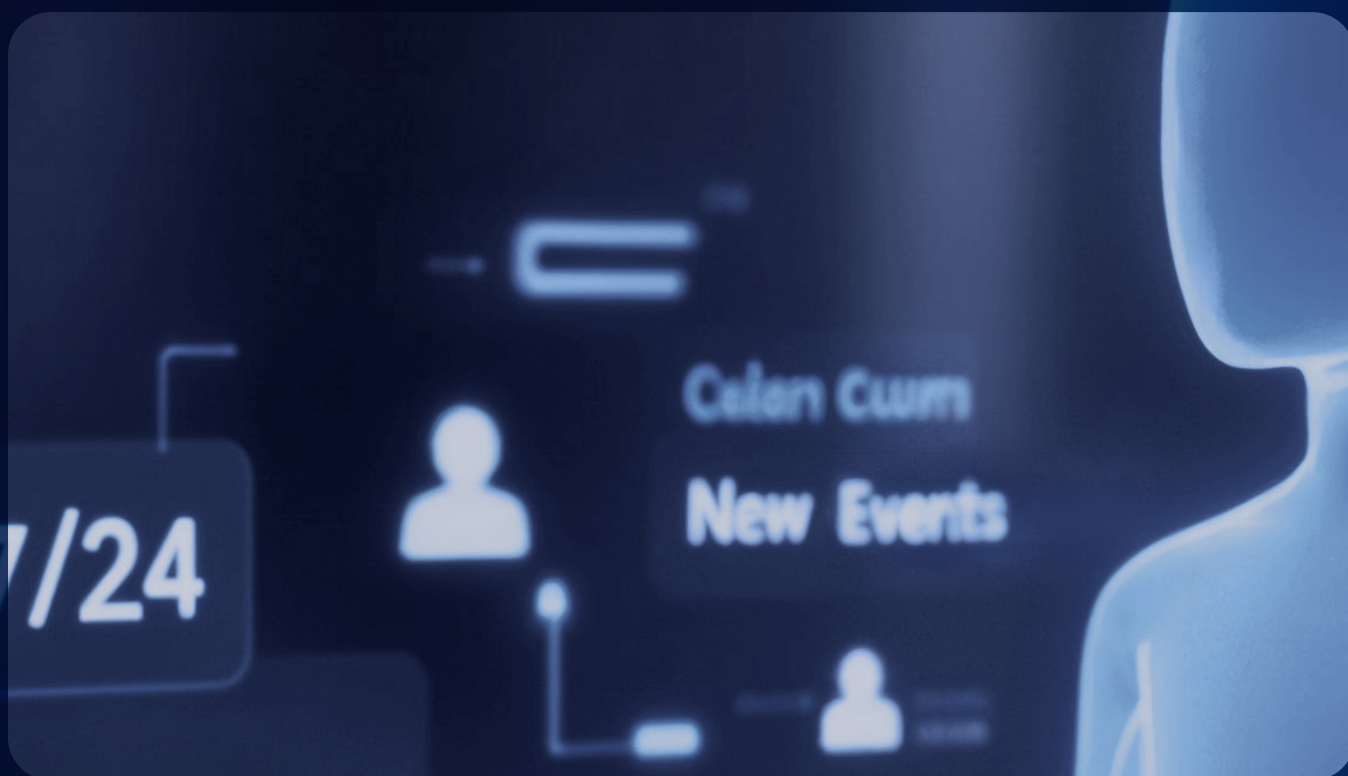
Yesterday and Today

Gifts, events, and congresses are still the cornerstones of emotional connection and trust. But these practices face increasing ethical and legal restrictions. This reliance on traditional relationship methods makes it difficult to measure ROI and optimize campaigns, making it hard to determine which actions are truly generating results and preventing efficient resource allocation.

Tomorrow

Building new services and digital experiences useful to the HCP will be the new driver of trust. With Agentic AI, companies can create agents that help doctors in their daily lives – suggesting scientific articles, integrating with prescriptions, monitoring patient adherence, and even tracking patient progress after the consultation. These agents could collect data on prescription adherence (did the patient adhere to the treatment?), how the medication is being taken (is it following instructions correctly?), the evolution of the clinical picture (has there been improvement?), and the appearance of possible side effects. By providing this continuous and valuable monitoring, the company reinforces an image of a real partner and not just a supplier. Agentic AI offers a data-driven and results-based alternative, enabling companies to be 37% more likely to measure ROI compared to those using general-purpose AI tools [Live Ramp] and increasing ROI by up to 44% [PwC].

	Yesterday	Today	Tomorrow
Volumetry	Low-scale, high-cost in-person visits.	Generic, poorly personalized digital content.	24/7 personalized digital agents for all HCPs.
Quality	Uniform communication focused solely on the product.	Basic personalization using CRM and segmentation.	Real-time hyper-personalization with tailored actions.
Frequency	Frequent visits that lead to saturation and rejection.	Limited frequency due to the physical capacity of field teams.	Omnichannel orchestration with continuous and contextual presence.
Trust	Relationship based on events and gifts.	Ethical restrictions make it difficult to measure ROI and optimize actions.	Digital services that support and engage HCPs on a daily basis.



Chapter 4

Building the Sales Rep Agentic Hub

It is in this context that the Sales Rep Agentic Hub emerges:

Sales Rep Agent Hub

From Representative to Intelligent Ecosystem

The Sales Rep Agentic Hub is, in practice, an orchestrated solution of multiple autonomous agents, each playing a specific and highly coordinated role within the HCP's journey.

This solution combines:



Journey Intelligence Agent

Powered by data from CDPs, CRMs, and digital channels, it continuously monitors and interprets the HCP's stage in relation to the target, which covers awareness (first contact with the topic or product), interest (demonstration of curiosity and information seeking), consideration (evaluation of evidence and comparison with alternatives), adoption (start of use or prescription), and loyalty (recurrent use and advocacy of the solution), in addition to identifying possible moments of disengagement.



Synthetic Persona Agent

Acts as an intelligent interpreter of the HCP's 360° view, crossing their data with patterns of similar professionals to predict interests, anticipate objections, detect opportunities, and help other agents operate with greater precision and context.



NBA/NBO Agent (Next Best Action / Next Best Offer)

Responsible for suggesting the next most relevant engagement action for each HCP based on their profile, history, clinical moment, and behavior patterns – whether sending a scientific article, initiating a natural voice chat, recommending an explanatory video, or an invitation to a congress.



Optimal Channel Agent (Next Best Channel)

Defines the best channel for each interaction (WhatsApp, email, medical portal, voicebot, etc.) based on previous preferences, historical performance, and availability context.



Tone of Voice Agent

Adjusts the interaction language to the HCP's individual profile – more technical, more empathetic, more concise, or more educational – ensuring that the content is delivered naturally, engagingly, and appropriate for the doctor's specialty and style.



Scientific Agent (Argument Selector):

Navigates a dynamic database of clinical studies and publications, selecting the most relevant and updated scientific evidence to support the arguments presented, ensuring rigor and technical credibility in each interaction.



Multimodal Generation Agent (GenAI)

Builds content (text, audio, images, short videos, infographics) in real-time, aligning the selected arguments with the appropriate tone of voice and defined channel, delivering personalized and contextualized experiences.

This modular architecture not only exponentially expands coverage capacity but also creates a significantly superior experience from the HCP's perspective – who begins to interact with a "digital partner" capable of understanding their clinical needs, responding scientifically and respectfully, and offering continuous and non-intrusive value.



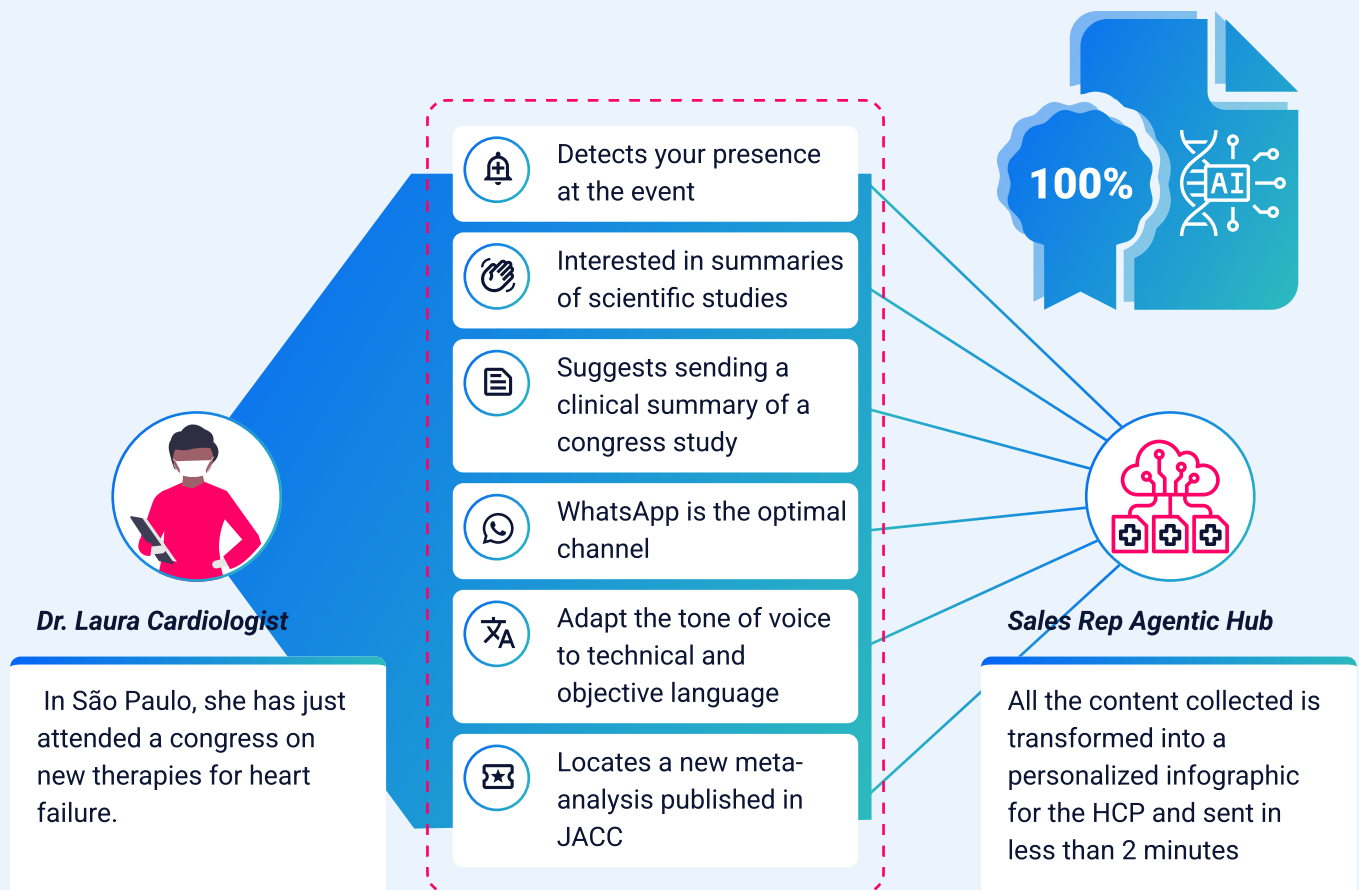
The Scientific-Contextual Engagement Machine

Imagine...

A cardiologist in São Paulo who has just participated in a congress on new therapies for heart failure.

>>

The Journey Intelligence Agent detects their presence at the event. >> The NBA agent suggests sending a clinical summary of a relevant study presented at the congress. >> The optimal channel is identified as WhatsApp. >> The tone of voice is adapted to a technical and objective language. >> The scientific agent locates a new meta-analysis published in JACC. >> The content is transformed by the GenAI agent into an interactive infographic and sent in less than 2 minutes. >> The doctor interacts, clicks, consumes the content. >> The system collects implicit feedback (reading time, interaction, clicks) and feeds it back into the database for the next suggestion. **All without direct human intervention.**



Strategic Gains for the Industry

The applications of the Sales Rep Agent go far beyond promotional marketing. They allow:



Scaling coverage with quality

Increase the number of engaged HCPs without overloading human teams, maintaining the level of personalization and technical depth.



Increasing perceived value by doctors

Provide truly relevant scientific content, in the preferred format and channel, with compatible language useful for clinical practice.



Measuring with greater precision

Monitor each interaction in detail, with sentiment analysis, implicit feedback, and a continuous learning cycle.



Optimizing compliance

Agents operate within approved flows, with traceable, auditable logs, reducing regulatory risks.



Reducing operational costs

Automating repetitive tasks and freeing up human teams for high-value strategic interactions.

Recommended Technical Architecture

The implementation of a high-performance Sales Rep Agent involves:



Integration of a robust **CDP**, with structured and unstructured HCP data;





Use of **LLMs connected via RAG** for real-time consultation of scientific databases (e.g., PubMed, Scielo, internal databases);



Orchestration of agents via frameworks such as **LangGraph, CrewAI, or AutoGen Studio**, with central governance;



Compliance and approval layers integrated into the automated workflow;



Multimodal capability with **GenAI** for text, image, audio, and video content;



Executive dashboards for real-time performance, engagement, and ROI monitoring.

Final Considerations

The *Sales Rep Agentic Hub* does not come to replace the representative, but to make their work more efficient, focused, and relevant. By automating what is repetitive and providing real-time intelligence, it frees the sales rep for what really matters: building more strategic, useful, and aligned conversations with each HCP's moment.





It is a practical way to deal with the complexity of the current scenario, helping the representative to prepare better, act with greater precision, and respond with greater agility – without sacrificing the human touch that remains essential in medical relationships.

More than technology, the Hub represents a change in the modus operandi: less effort to organize, more time to connect. And, with that, more real impact on each visit.

By adopting this approach, the healthcare industry moves towards a new paradigm: less promotional push, more scientific pull, and a more genuine partnership. The future of medical representation is autonomous, yet even more human — because it understands the HCP better than ever.

Traditional HCP engagement models have reached their limits. **With Agentic AI, we gain the ability to deliver predictive and truly personalized value at scale.** This enables us to build strong trust that goes far beyond isolated interactions and genuinely influences clinical decision-making. **This is an opportunity to lead the next generation of physician relationships,** ensuring a competitive and differentiated ROI while reinforcing our commitment to patient care.

Ricardo Kim, Senior Data Consulting Manager

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Chapter 5

Real Application Cases

How Companies Are Implementing Agentic AI in Practice

In this chapter, we will explore examples of how companies in different sectors are adopting Agentic AI in practice, transforming their processes and improving their results. We will present real use cases that illustrate how technology has been applied to optimize operations, improve customer interaction, and enhance efficiency in product development. These practical examples provide valuable insight into the opportunities and challenges faced by organizations, as well as demonstrating the real impact of AI implementation.

Use Case #1

Summary of interactions of HCPs

For a global company of CPG, we created a summary of interactions of HCPs, very similar to a summary of medical bills.

Commercial challenge

Before a face-to-face visit, medical representatives need to **gain insight into previous interactions with HCP**.

- ✓ The relevant data is scattered, obtaining and cross-referencing it is manual
- ✓ The main indicators of interest from HCP are within reach, but are not readily available
- ✓ The process is time-consuming and results in inconsistent results

Results of implementing *GenAI*

- ✓ **NPS of 75** for the solution in the medical representatives team
- ✓ **Time savings and improved relationship** with HCP are two of the main recurring benefits reported by MRs

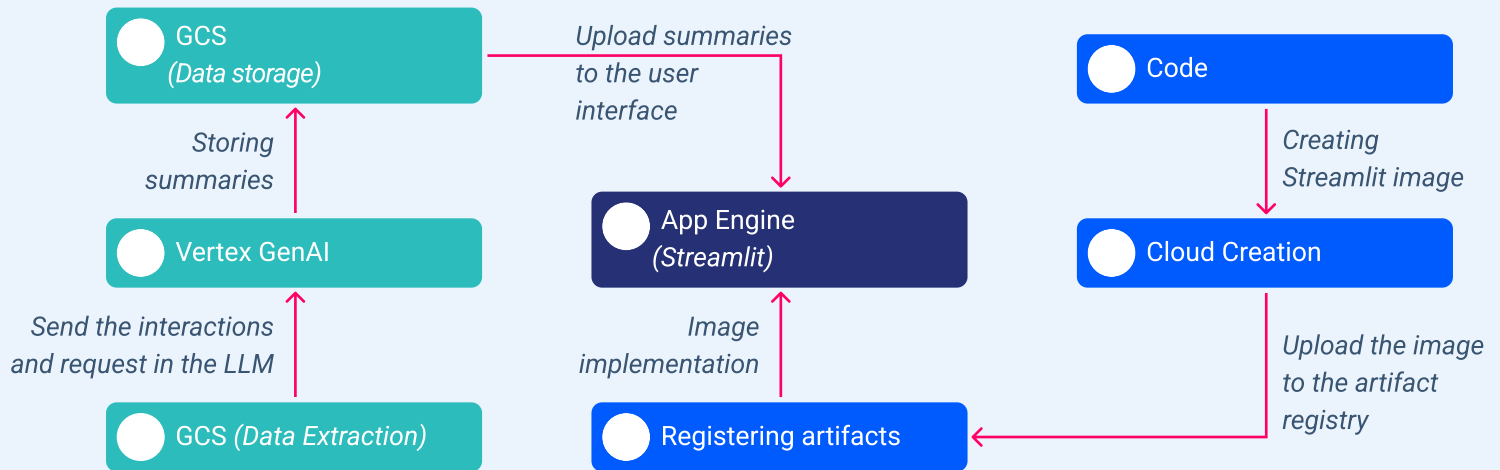
Summary view of interactions offline and online

KPIs and important insights about brand, topics, channel preferences based on previous interactions

Recommendations on next steps, suggestion on **best time to share content** (e.g. an email)

Why invest?

We are **used to creating strategic tools** for **to increase compliance, optimize engagement and improve patient outcomes**. We will use our knowledge and experience to create a tool tailored to your personas and needs.



The product was delivered with a product-focused approach and using agile methodology, through sprints to ensure stakeholder alignment with priorities.

This product was delivered on a GCP architecture - we have the technical experts and certified to work on a similar version on AWS or Azure.

Technical challenges

- ✓ **Availability and quality of data** to reconstruct all past interactions with HCP (solved by a separate 360° data governance project from HCP)
- ✓ Obstacles in **integrating with the existing CRM tool**, requiring an **agile approach with iterative sprints** to develop the required functionalities."

Key learnings

- ✓ Positioning GenAI as an assistance and training tool is key to adoption
- ✓ It is important to record feedback from the user and set up an evaluation structure to continuously improve the tool
- ✓ Having well-structured data with clearly defined and unambiguous column descriptions dramatically improves performance

Use Case #2

Medical Writing Assistant

Getting drugs to patients faster by accelerating authoring of key regulatory medical documents by 30%.

Business Challenge

Writing medical documents, such as Clinical Study Protocols and Informed Consent Forms, is often very time-consuming:

- ✓ It requires reading and analyzing dozens of reports over 100 pages long.
- ✓ Requires manual replication of each change throughout lengthy documents
- ✓ Causes delays in patients' access to medicines

GenAI Implementation results

- ✓ **30% reduction in time spent** preparing medical documents
- ✓ **Use of common knowledge**, use of proven terms and standardized templates

This assistant is **used by medical writers to speed up the preparation of reports** via GenAI (notably by identifying and synthesizing documents, and generating content).

Medical writers **retain control over the curation of source documents and the final output**, being able to analyze and interrogate texts and tables. The outputs are accurate, offering sources directly within the documents to validate the responses.

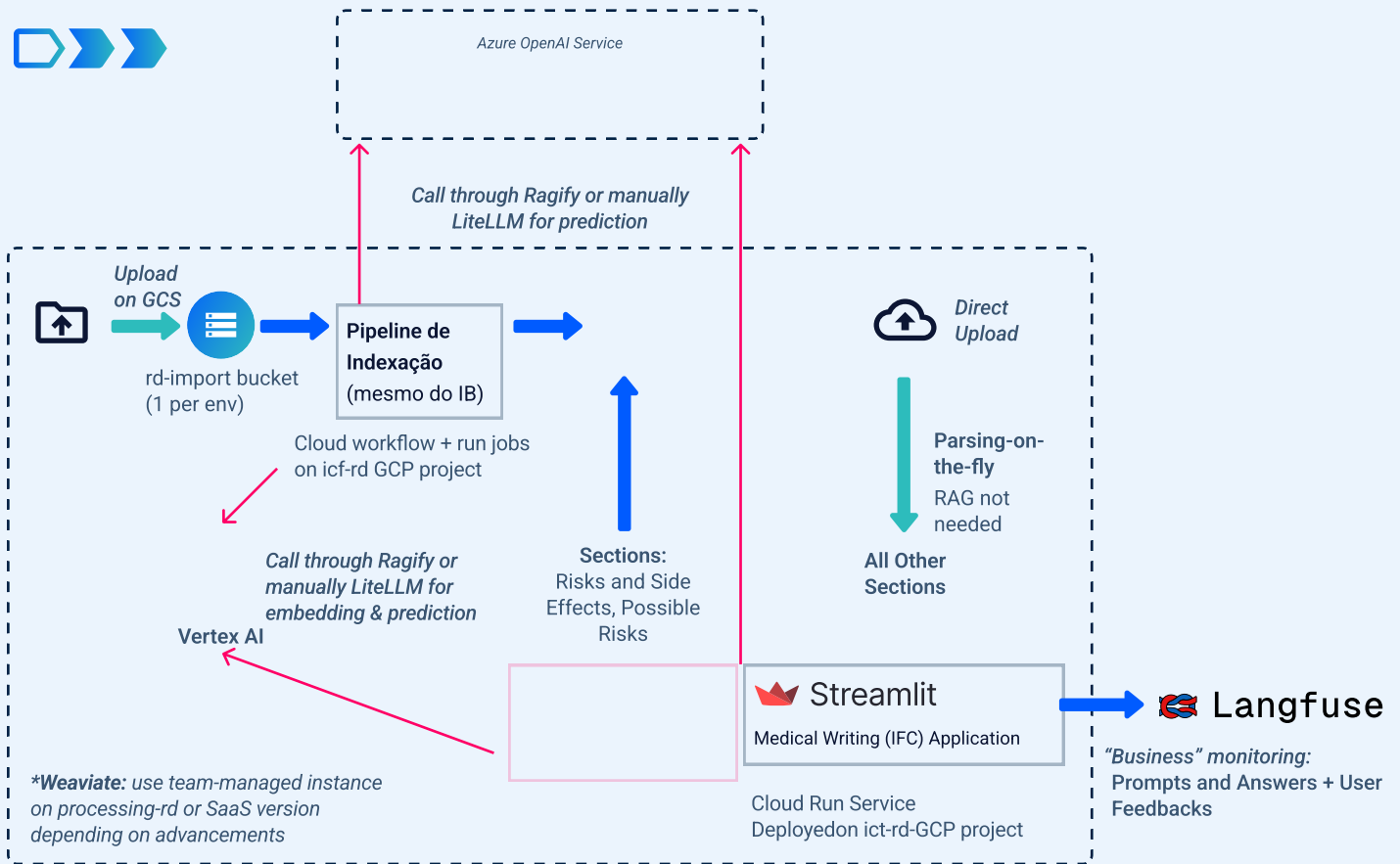
Why invest?

We know how to ingest and process large volumes of data efficiently to deliver accurate results. We've also developed a similar use case focused on Clinical Study Reporting (CSR) for drug R&D - we know how to start fast and scale with agility.

Architecture Schema

(The following schema does not include the evaluation process components, which are still under review)





Example for the Informed Consent Form (ICF):

Retrieval Augmented Generation architecture, **able to ingest 20k+ pages of context**

OCR (image recognition) to identify and interpret tables in pdfs

Secure solution (no data/request/prompt sharing outside of the client's env.)

Technical challenges

- ✓ Finding the right solution with **multimodal capabilities & satisfactory accuracy** levels to identify and embed tables
- ✓ **Building a Medical Authoring AI enabler replicable on multiple reports**

Key learnings

- ✓ The underlying tech must be tailored to both varying document types (IBs, ICF, CSPs...) and phases (e.g., initial drafting vs. regulatory consistency checks)
- ✓ Ensure users retain full control through a human-in-the-loop design
- ✓ Custom prompting workflows are needed to support existing cross-functional roles
- ✓ Seemingly simple features like document drag & drop can make or break the tool's adoption & success

Use Case #3

AI Persona Generator

The AI Persona Generator we built for a CPG company can be inspiring for targeting Marketing.

Business challenge

Rapid shifts in consumer expectations and behaviours, an evolving competitive landscape and fragmented data make it increasingly complex for marketers to understand their audience and deliver personalized, targeted campaigns that meet consumers where they are.

GenAI Implementation results

Empowering marketing teams with AI Persona tool resulted in:

- ✔ **5-10% market share gain** in the Coolers segment
- ✔ Improved **customer engagement & satisfaction**
- ✔ Faster **insights** and accelerated **time-to-market**

Generate personas to identify high-value target audiences and adjust your campaigns before launching them

Chat with personas to better plan your campaign strategies

Personalize content for specific audiences

Simulate campaigns on your synthetic audiences to adjust targeting and content selection based on results

Why invest?

Not only can we help you generate personas based on both structured and unstructured data, **we can also help you synthesize customer data to talk to your personas**, ensuring your campaign **content is truly personalized to your audience.**

Persona Examples

Next is an example of profiles representing different types of HCPs, along with their behaviors, needs, and motivations.





Dr. Tereza Andrade

The town's doctor

☆ Experience

Experient (46+)

📍 City size

Small cities

🏥 Place of work

Hospital 100%

📊 Representativeness

25%

Dr. Caio Fernandes

The on-call specialist

☆ Experience

Experiente (46+)

📍 City size

Large cities

🏥 Place of work

Hospital (91,7%), Clinic (8,3%)

📊 Representativeness

17%

Dr. Marina Silva

The popular

☆ Experience

Little Exp. (31–45)

📍 City size

Small cities

🏥 Place of work

Hospital (75,4%), Others (24,6%)

📊 Representativeness

10%

Dr. Rebeca Moraes

The clinic reference

☆ Experience

Experient (46+)

📍 City size

Small cities

🏥 Place of work

Clinic 100%

📊 Representativeness

15%

Dr. Roberto Kim

The server

☆ Experience

Little Exp. (31–45)

📍 City size

Large cities

🏥 Place of work

Hospital (61%), Clinic (5%), Others (33,9%)

📊 Representativeness

13%

Dr. Sam Moraes

The miltipurpose doctor

☆ Experience

Experient (73,4%) + Little Exp. (26,6%)

📍 City size

Small (59%) + Large (41%)

🏥 Place of work

Clinic (18,9%), Government (26%), Others (54%)

📊 Representativeness

20%



Chapter 6

Ethical & Compliance

Ethical and Compliance Considerations in *Agentic AI for Healthcare*

As artificial intelligence advances to fill sensitive roles in interactions between healthcare companies and professionals (or patients), ethics, transparency, and compliance cease to be parallel themes and become core components in the design of these solutions.

Agentic architecture — being autonomous, adaptive, and customizable — brings unique governance challenges. This chapter addresses the main risks and how to mitigate them from the outset.



Privacy and Continuous Consent

Challenge

Agents operate in real time with personal data, often sensitive (interactions, preferences, clinical patterns). It is essential to ensure that all processing is done based on **informed, granular, and auditable consent**.

Good practices

- ✓ Dynamic and revocable consent.
- ✓ Clear separation between identifiable and aggregated data.
- ✓ Use of **synthetic data** or privacy-preserving AI techniques (differential privacy, homomorphic encryption) for model training.



Accountability: Who is responsible for automated decisions?

Challenge

If an agent recommends clinical content, a channel action, or a sensitive response — who is responsible? The company? The developers? The medical teams?

Recommendations

- ✓ Create a decision log accessible and auditable by humans.
- ✓ Adopt "human-in-the-loop" frameworks for critical decisions.
- ✓ Map risks by agent type (content, channel, journey) with impact matrices.



Bias and Representativeness

Challenge

Models trained on historical data can perpetuate biases (by specialty, region, HCP profile, etc.).

Good practices

- ✓ Evaluate agent performance by demographic group and clinical profile.
- ✓ Adopt fairness-aware ML practices.
- ✓ Review prompt and message content for inclusive and accurate language.



Transparency and Explainability

Challenge

Agents need to be understood by users and regulators — especially in medical interactions.



Good practices

- ✓ Provide simplified explanations of agent actions ("why did I receive this?").
- ✓ Display scientific sources or references when content is clinical.
- ✓ Create internal dashboards for agent traceability, with confidence and accuracy metrics.



Recommended Governance Frameworks

- ✓ **EU AI Act (2024)**: defines risk categories for AI. Medical decision or prescription agents are "high risk" and require rigorous documentation.
- ✓ **Good Machine Learning Practices (GMLP – FDA)**: guide for ethical AI development in healthcare.
- ✓ **ISO/IEC 42001:2023**: new international standard for AI system governance.



RECOMMENDATION

Create an Agentic Governance Committee with members from Legal, Compliance, Medical Affairs, and Tech to evaluate, validate, and supervise the evolution of agents, ensuring continuous security and regulatory alignment.



Chapter 7

Implementation Roadmap for Agentic AI

Adoption Roadmap: How to Implement Agentic AI

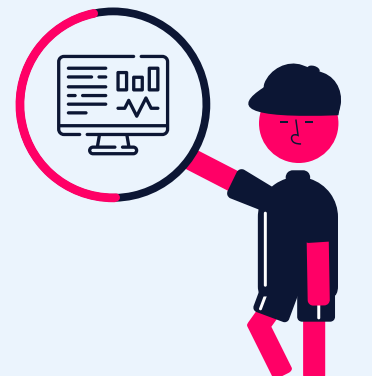
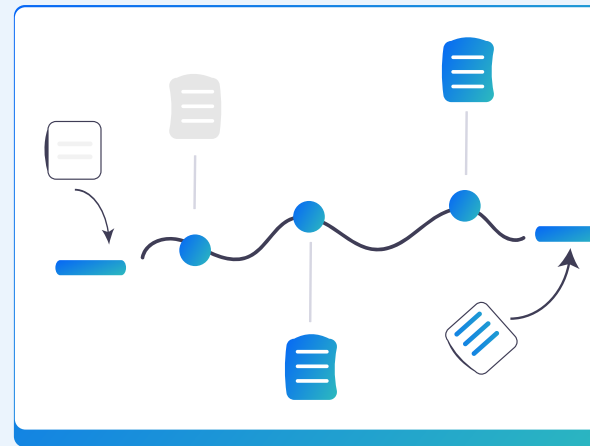
Artefact can support organizations' journey in implementing Agentic AI, focusing on value capture in a structured and sustainable way. Successful adoption begins with a clear roadmap built around three key pillars: Individual Level, Use Cases with Real Impact, and Transformation at Scale.

In this chapter, we will explore each of these pillars in detail, addressing the key steps to effectively implement Agentic AI.

We will start with the **Individual Level**, where the **focus is on empowering employees** to make the most of available agents, promoting knowledge democratization.

Next, we will discuss **Use Cases with Real Impact**, which help the organization prioritize and develop high-impact use cases to **generate value quickly and tangibly**.

Finally, we will talk about **Transformation at Scale**, which **prepares the organization to expand AI use technically and culturally**, structuring a program that ensures the scalability, robustness, and security of the agents.



How we can support your journey with Agentic AI - To capture value in a structured and sustainable way, we work on three pillars:

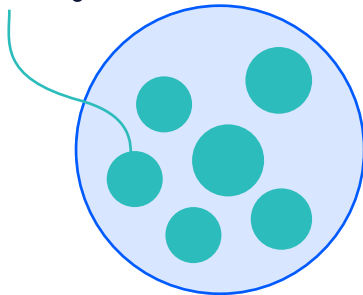
INDIVIDUAL LEVEL



We enable individuals **to make the most of the agents already available**

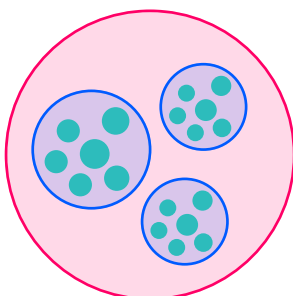
USE CASES WITH REAL IMPACT

Select 1 process:
Purchasing, HR, GTM...



Developing an agent **for a specific activity**, helping to demonstrate value quickly

SCALE TRANSFORMATION



We help design a structured program to map opportunities and prioritize initiatives **across the organization**

M A T U R I T Y

Deep Dive: Individual PoV

INDIVIDUAL LEVEL



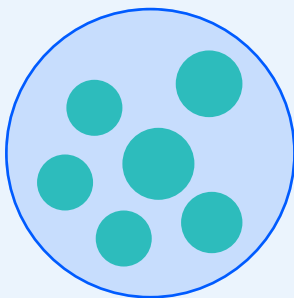
We allow individuals to **make the most of the agents already available to them**

We help people harness the power of Agents through:

- 1. Democratization of knowledge:** Training people to leverage these tools in their daily work
- 2. Tools:** Implementing a secure and private. GPT in your environment
- 3. Governance:** Allow self-service creation of agents with tools such as n8n and Zapier

Deep Dive: Use Cases with real impact

USE CASES WITH REAL IMPACT



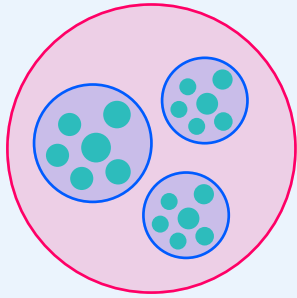
Development of an agent **for a specific activity**, helping to demonstrate value quickly

We accelerate your Agentic transformation through pilots of use cases:

- 1. Prioritize and launch agent pilots** within a few weeks **based on value potential**
- 2.** Transform key functions to achieve gains in **productivity, lead time and NPS**
- 3. Apply AI to real processes**, proving the impact and laying the foundations for scaling the use cases

Deep Dive: Scale transformation through a transversal program

SCALE TRANSFORMATION



We help you create a structured program to map opportunities and prioritize initiatives **across the organization**

We prepare your organization to scale Agentic AI, both technically and culturally:

Structuring the program (~2 months)

1. Identify **priority functions and processes**
2. Sizing up the **business value** at stake
3. Design and launch an **operating model** to scale the use of Agentic AI
4. Incorporate a **cultural change**, promoting adoption and long-term impact

AI platform readiness

1. Create or improve AI foundations (**AgenticOps platform**)
2. Ensure agents are scalable, robust and secure

*While implementing Agentic AI may appear complex, Artefact is here to **make the journey actionable and grounded**. With our structured methodology and focus on concrete results, we offer the necessary support to empower your team, accelerate transformation, and ensure scalable and secure adoption. **Together, we will help transform your business and harness all the benefits of AI effectively and sustainably.***



Artefact

Artefact as Your **Strategic Partner**

Why Artefact is the right partner?

In the era of generative artificial intelligence and data-driven marketing, choosing a partner with real experience makes all the difference. Artefact has already supported major pharmaceutical and biotech companies in Brazil and worldwide, helping these companies transform their relationship with healthcare professionals in a smarter, more personalized, and efficient way.

Our differential lies in the unique combination of AI, product, and business teams. This allows us to design **solutions that connect strategy and operation, with deliveries that go beyond technology**: we create adaptive journeys, personalization at scale, and actionable recommendations with direct impact on the day-to-day of marketing and sales teams.



Why trust Artefact:

1. Proven industry experience

We have vast experience in the Healthcare sector, delivering practical solutions and measurable results for leading companies. We operate at all stages of the value chain, with an emphasis on innovation, efficiency, and sustainable growth.

2. Structured and Personalized Methodology

Our approach combines detailed analyses with tailor-made solutions, balancing strategic vision and practical execution. We continuously monitor results to ensure our clients' success.

3. AI Vision as a Business Unit

We incorporate the vision of Data and Artificial Intelligence as value-generating assets, so that technology serves the business. Focusing on solving business area challenges, applications must provide tangible and measurable results, whether through more assertive decision-making, process optimization and automation, or the generation of actionable insights in real time, positioning your company ahead of the competition.

4. Commitment to Concrete and Sustainable Results

Our goal is to deliver solid and far-reaching results, promoting continuous innovation and strategic efficiency to position your company as a market benchmark.

Our proven impact

Over years of partnership in driving business through data and AI solutions and strategies, we've made a significant impact — consistently adding value to the methodologies and growth initiatives of our clients and partners.

35%

Increased Operational Efficiency

Implementation of customized AI solutions to optimize internal processes at a major consumer goods company, resulting in a faster and more efficient operation.

20%

Reduction in operational costs through the application of advanced automation technologies

40%

Improved demand forecasting accuracy using AI-based predictive analytics



What our clients say about us!

Our projects have already delivered significant gains to our clients. Here are a few testimonials from those who've seen the results up close.



Demand and Supply Forecasting

With Artefact's forecasting solution, we increased accuracy and reduced the time required by internal teams. In just three months, we achieved significant financial gains.



Stockout Forecasting

With Artefact's stockout forecasting, we mitigated risks, increased efficiency, and safeguarded revenue across the entire supply chain — all in just five days.

Some of our clients

Some of our clients: We work with some of the most recognized brands in the sector. We partner with over 1,000 clients worldwide, including more than 300 major international brands.

Opella. sanofi



Strategy & Transformation

- ▲ Data & AI Strategy
- ▲ Data & AI organization
- ▲ Data Maturity Assessment
- ▲ Corporate Training
- ▲ Hackathons
- ▲ Data & AI Days
- ▲ GenAI Academy
- ▲ Artefact AI Summits

AI Acceleration

- ▲ AI & Gen AI Factory
- ▲ Data & AI for Operations
- ▲ AI for Customer Care
- ▲ Data & AI for Private Equity

Data Foundations & BI

- ▲ Data Governance & Management
- ▲ Data – New BI – Self Business Intelligence
- ▲ Data for Sustainability

IT & Data Plataforms

- ▲ Data-Centric IT
- ▲ Cloud Services
- ▲ Tech-Agnostic Solutions
- ▲ Smarter Decision-Making
- ▲ Optimized IT Operations

Marketing Data & Digital

- ▲ Consumer Data Environment
- ▲ Data Valorization & Category Management
- ▲ Measurements (MROI) & Insights
- ▲ Marketing Analytics
- ▲ Data-driven Sales
- ▲ GMP Certified Reseller



Expertise by Industry:

FMCG | RETAIL & E-COMMERCE | LUXURY & COSMETICS | HEALTHCARE | BANKING & INSURANCE | TELECOMMUNICATIONS | SPORTS & ENTERTAINMENT | TRAVEL & TOURISM | PUBLIC SECTOR & GOVERNMENT | REAL ESTATE | MANUFACTURING & UTILITIES



Conclusion

From Supporting Roles to **Key Players**

The Future of Influence in Healthcare with Agentic AI



We are witnessing a turning point in the relationship between the pharmaceutical industry and healthcare professionals. The adoption of Agentic AI is not just another technological evolution — it is a profound redefinition of how we deliver value, build trust, and support clinical decisions in an increasingly complex world.

Throughout this eBook, we explored the transformations in the sector, the current challenges in interactions with HCPs, and how Agentic AI can act proactively, personalized, and scientifically relevant. We saw that traditional methods — still dominated by in-person interactions, generalized approaches, and slow processes — can no longer cope with the speed and sophistication demanded by the current scenario.



The future, however, is not distant. It has already begun to materialize in the initiatives of pioneering companies that are applying Agentic AI to automate journeys, amplify the performance of representatives, and deliver meaningful and ethical experiences to HCPs. This is the new normal: an operation orchestrated by intelligent, autonomous, and always compliant agents.

The adoption of this new approach requires vision, preparation, and a commitment to responsible digital transformation. But the benefits are clear: greater efficiency, genuine engagement, and, above all, more value delivered to professionals and the patients they serve.

If there is one certainty at this moment of transition, it is that **companies that begin to experiment and scale Agentic AI now will be shaping the next chapters of healthcare history.**



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NURSING

DENTISTRY

PHARMACY

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Glossary

Accountability

In the context of Agentic AI, refers to determining who is responsible for decisions made by automated agents, especially in sensitive medical interactions.

APIs

Application Programming Interfaces: Used by Agentic AI solutions to dynamically integrate data, allowing agents to connect to various systems.

Adoption Roadmap

A structured plan based on three pillars (Individual Level, Use Cases with Real Impact, and Transformation at Scale) to ensure the successful adoption of Agentic AI.

Artificial Intelligence (AI)

A field of computer science that develops systems capable of performing tasks that typically require human intelligence, such as learning, decision-making, and pattern recognition.

Bias and Representativeness: Ethical challenge of ensuring that models trained on historical data do not perpetuate biases (by specialty, region, HCP profile, etc.).

Agentic AI

A type of artificial intelligence that adds autonomy and decision-making capabilities to systems, allowing them to act proactively, learn from experience, and execute complex tasks with minimal human intervention. It mimics human reasoning and autonomously explores complex problems, executes actions, and makes decisions.

CDP -Customer Data Platform

A robust platform for integrating structured and unstructured HCP data, crucial for feeding the Journey Intelligence Agent in a Sales Rep Agentic Hub.

AI Pipelines

Automated flows of ingestion, processing, and decision, connecting data to action.

Compliance

A set of rules and regulations that companies must follow to ensure legal and regulatory compliance, especially in the Healthcare sector. In the pharmaceutical industry, this is fundamental to ensure ethical and legal operations.

Customer Relationship Management

Systems used to manage and analyze customer interactions and data throughout the customer lifecycle. In the context of HCPs, CRM tools assist in initial personalization and segmentation. Integration challenges with existing CRM tools are highlighted in the document.

ERP

Enterprise Resource Planning: Systems used by clinics that can offer valuable inputs to personalize interactions, predict needs, and accurately measure engagement.

Data Governance

A set of processes and policies that ensure the quality, security, and compliance of data use within an organization.

EU AI Act (2024)

Law that defines risk categories for AI. Medical decision or prescription agents are considered "high risk" and require rigorous documentation.

Data Security

Practices and technologies used to protect sensitive information against unauthorized access, leaks, or cyberattacks.

Frameworks

(e.g., LangGraph, CrewAI, AutoGen Studio): Tools for orchestrating multiple AI agents, ensuring they operate synchronously and efficiently.

Digital Transformation

The process of integrating digital technologies into all areas of a company to improve operations, efficiency, and customer experience. In the healthcare sector, this involves changes in patient behavior and expanded access to data about HCPs.

GenAI

Generative Artificial Intelligence: A subfield of AI focused on creating new content, such as text, images, code, and audio, from models trained on large volumes of data. It is widely adopted to simplify various tasks through information retrieval, document production, and synthesis.

Digitalization of Interactions:

The digitalization of interactions with healthcare professionals has created a highly fragmented ecosystem, but also one full of opportunities.

GMLP

Good Machine Learning Practices - FDA: A guide for ethical AI development in healthcare, recommended for governance.

HCPs

Health Care Professionals: The central actors in the healthcare ecosystem, including doctors, who play a unique and strategic role as trusted intermediaries between the industry and the patient.

Machine Learning (ML):

An AI technique that allows systems to learn from data and improve their performance without explicit programming. Fairness-aware ML practices are recommended to address biases.

Human-in-the-loop

A recommended framework for critical decisions, where human intervention is part of the automated decision-making process.

Multimodal Generation Agent

Builds content (text, audio, images, short videos, infographics) in real-time, aligning the selected arguments with the appropriate tone of voice and defined channel, delivering personalized and contextualized experiences.

ISO/IEC 42001:2023

New international standard for AI system governance, recommended for adoption.

NBA/NBO Agent

Next Best Action / Next Best Offer: Responsible for suggesting the next most relevant engagement action for each HCP based on their profile, history, clinical moment, and behavior patterns.

Journey Intelligence Agent

Continuously monitors and interprets the HCP's stage in relation to the target (covering awareness, interest, consideration, adoption, and loyalty), in addition to identifying possible moments of disengagement.

OCR - Optical Character Recognition

A technology mentioned in a use case for identifying and interpreting tables in PDF documents.

LLMs - Large Language Models

Large-scale language models that use advanced neural networks to understand and generate natural language, enabling applications such as chatbots and virtual assistants. They are combined with autonomous and interactive decision flows in Agentic AI.

Omnichannel Orchestration

The ability to integrate messages through various channels such as email, WhatsApp, medical portals, and even voicebots, creating journeys that keep the brand active even between in-person visits.

Optimal Channel Agent

Next Best Channel: Defines the best channel for each interaction (WhatsApp, email, medical portal, voicebot, etc.) based on previous preferences, historical performance, and availability context.

Real-time Hyper-personalization

A new standard of communication where intelligent agents deliver individualized Next Best Actions (NBAs), such as scientific content, invitations to congresses, or clinical updates, based on historical, contextual, and predictive data.

Privacy and Continuous Consent

Ethical challenge of ensuring that all processing of personal data, often sensitive, is governed by informed, granular, and auditable consent.

RPA

Robotic Process Automation: Technology that uses software to automate repetitive business processes, increasing operational efficiency. It focuses on automating back-office operations with simple and static logic orchestration in monotonous tasks. Agentic systems combine RPA with Generative AI for autonomous task performance.

Privacy-preserving AI

Techniques such as differential privacy and homomorphic encryption, used to train models while protecting sensitive data.

Return on Investment

A metric used to evaluate the efficiency of an investment. Agentic AI is expected to generate an ROI increase of up to 44%.

Prompts

Inputs used to guide AI models in content generation. Prompt personalization is crucial to support existing cross-functional roles.

Sales Rep Agentic Hub

An integrated set of intelligent tools created to accelerate and empower the sales representative's work, enabling autonomous, multichannel, and scientifically relevant medical representation.

RAG

Retrieval-Augmented Generation: A technique used in generative artificial intelligence systems, where the model combines text generation with retrieval of relevant information from a database or external documents to increase the accuracy and relevance of responses. It allows agents to consult external sources in real time before making decisions, increasing accuracy.

Scientific Agent - Argument Selector

Navigates a dynamic database of clinical studies and publications, selecting the most relevant and updated scientific evidence to support the arguments presented, ensuring rigor and technical credibility in each interaction.

Telemedicine

The practice of providing healthcare services remotely, using technology, which has become part of the new value offering of HCPs.

Scientific-Contextual Engagement:

The concept of a "machine" that orchestrates hyper-personalized and scientifically relevant interactions with HCPs, using various AI agents.

Tone of Voice Agent

Adjusts the interaction language to the HCP's individual profile – more technical, more empathetic, more concise, or more educational – ensuring that the content is delivered naturally, engagingly, and compatibly with the doctor's specialty and style.

Strategic Gains

Benefits obtained from implementing the Sales Rep Agentic Hub, including scalability, perceived value by doctors, accurate measurement, compliance optimization, and reduced operational costs.

Transparency and Explainability

Ethical challenge of ensuring that agents are understood by users and regulators, especially in medical interactions.

Synthetic Data

Data that is artificially generated rather than collected from real-world events, used for model training while preserving privacy.

Voicebots

AI-powered conversational agents that can interact with users through spoken language, used in omnichannel orchestration.

Synthetic Persona Agent

Acts as an intelligent interpreter of the HCP's 360° view, crossing their data with patterns of similar professionals to predict interests, anticipate objections, detect opportunities, and help other agents operate with greater precision and context.