



Smarter, Safer, Scalable

# Implementing Schema.org / JSON-LD for GEO / AI Search in B2B and eCommerce

How We Built Reusable Semantic Graphs

## CASE STUDY

---

**Industry:** B2B / E-commerce

**Client:** E-commerce portals (online bookstore and B2B) and opti.ro

**Year:** 2025



## WHY SCHEMA.ORG FOR GEO?

SEO optimization in 2026 (Web 3.0) means more than just keywords and link building. It requires **semantic clarity** through graphs: for Google, but also for AI search agents (AI Overviews, ChatGPT, Claude, etc.). This phenomenon is known as **GEO** (Generative Engine Optimization) or **AI Search**, and the challenge lies in *server-side* generation, not WordPress plugins.

### Common problems:

- **The brand was hard to find:** similar names / acronyms required *SameAs* and declaration of *Person / Organization* entities.
- **Services and products lacked entity clarity:** necessitating the implementation of *Service / SoftwareApplication / Product*.
- **The e-commerce catalog lacked a reusable structure:** proper lists, *breadcrumbs*, *search action*, and *standardized attributes* (price, availability, SKU/ISBN) were needed.
- **Disconnected editorial content:** case studies, guides, and articles had to be linked to specific services or products.

### OPTI Software's approach was "graph-first" (semantic graph):

- Defining entities, relationships, and IDs, encoded in JSON-LD
- Implementing *server-side* schema, stable and easy to test
- Schema quality controls: QA, regression testing, and monitoring
- The results include **more stable indexing, an increase in non-brand search impressions, and enhanced brand clarity.**



## CHALLENGES

Without a schema.org implementation, the three websites had slow indexing (mostly for *long-tail* queries), had few AI summaries, and heavy content creation had lower-than-expected ROI.

### 1. Classic SEO vs. GEO: same content, different asks



In classic SEO, a good title and a coherent H1 help. In GEO, AI systems look for who is speaking (publisher/author), what the topic is (product/service/article), what evidence exists (data/links/entities/offers), and how they connect (graph).

### 2. Identifier (ID) consistency and deduplication



Schema must be free of contradictions. If an organization appears in hundreds of places, it must be the **same entity**. OPTI.ro uses a stable core (<https://www.opti.ro#organization>, <https://www.opti.ro#website>) and links the rest of the pages back to it.

### 3. Multilingual capabilities and AI context



When a website has RO/EN versions, it must explicitly declare its language versions to avoid ambiguity. OPTI.ro uses *inLanguage* with ro-RO and en-US across all pages.

### 4. E-commerce data is abundant but fragile



Prices, stocks, product lists, and sometimes even product details frequently change. The schema must be continuously updated to match Google's requirements.



## SOLUTION

We treated the schema as a reusable semantic graph, implementing it across three layers for both for B2B and the two e-commerce websites:

### 1. Brand graph with stable entities

- Comprehensive *Organization*: *name*, *legalName*, *alternateName*, *logo*, *contactPoint*, *sameAs* etc.
- *WebSite*: *publisher*, *inLanguage*, actions, e.g. subscribe etc.
- *WebPage* for Homepage: description, *images*, *publisher*

Essential for GEO: identifying the source and how it can be verified.

### 2. Offer graph featuring services and products

- Service pages are modeled as Service (see OPTI.RO):
  - *additionalProperty*: highly useful for AI as it compacts technical capabilities into a standardized format.
  - *subjectOf*: pointing to case studies, serving as an explicit verification (the service is backed by real examples).

Software product pages get *SoftwareApplication*:

- *offers*: commercial packages with *featureList*, *rating* etc.
- *HowTo* (brief steps) and *FAQPage* (Frequently Asked Questions), While not guaranteeing 100% "rich results" in Google, they allow AI agents to deliver semantic answers..

### 3. Editorial graph for authority and citations



For content assets like the blog, technical guides, and post series, we used advanced entities:

- *NewsArticle*: *author, publisher, media (Images,Video/PDF)*,
- *TechArticle*: *adding mentions, about, proficiencyLevel*
- Hierarchical links: *hasPart / isPartOf* (with sub-articles)
- *CreativeWorkSeries* for article series or guides.

Example OPTI.ro: [AI Architecture for B2B 2026](#)



These details matter to AI:

- Articles are linked to entities, products, and services
- Series become semantically navigable
- Subchapters are part of a larger whole and vice versa.

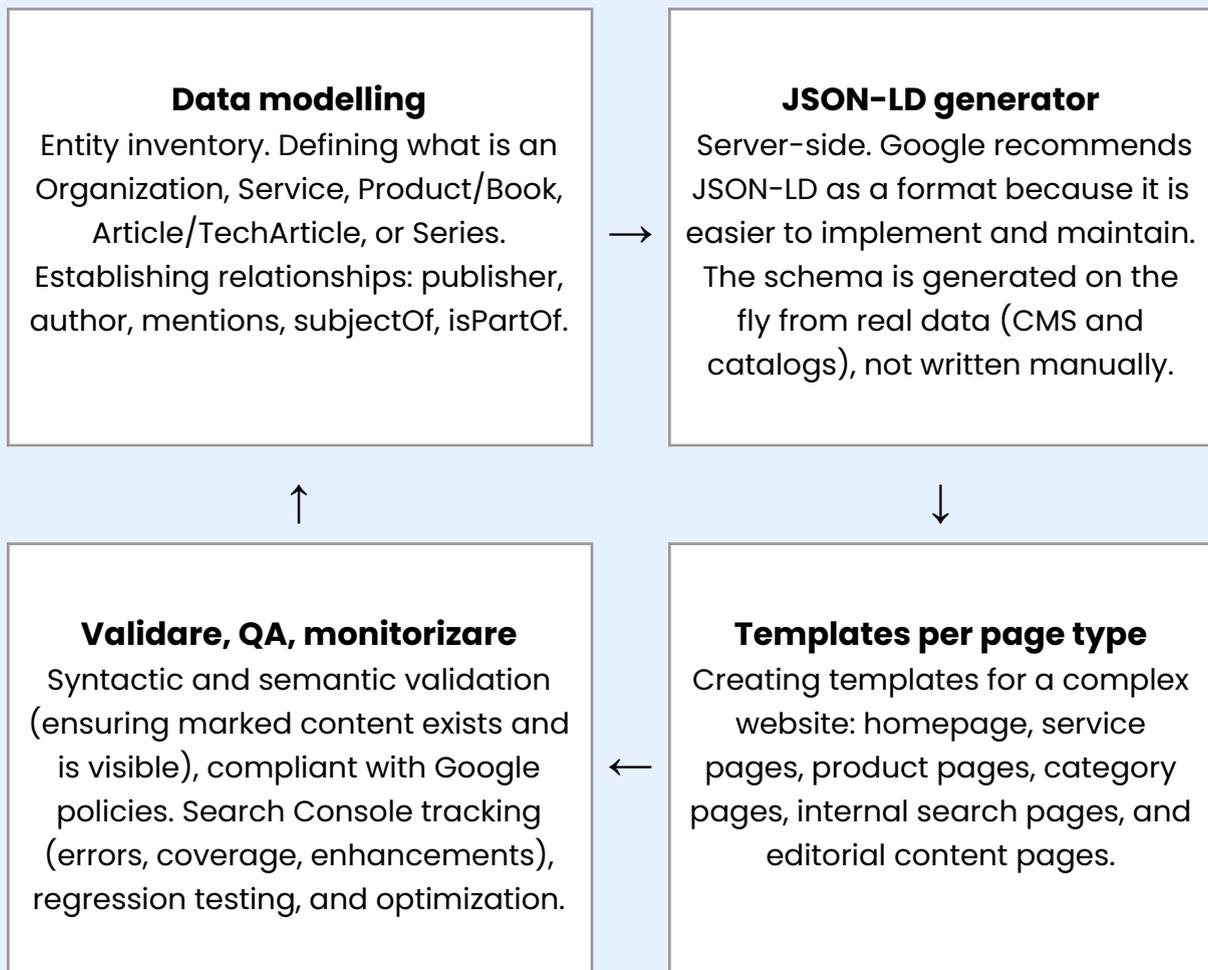
TechArticle		All (1) ▾
<b>TechArticle</b>		NICIO EROARE NICIUN AVERTISMENT ^
ID: <a href="https://www.opti.ro/ai-2026/ghid-recomandari-upsell#article">https://www.opti.ro/ai-2026/ghid-recomandari-upsell#article</a>		
@type	TechArticle	
@id	<a href="https://www.opti.ro/ai-2026/ghid-recomandari-upsell#article">https://www.opti.ro/ai-2026/ghid-recomandari-upsell#article</a>	
headline	Ghid 1: Totul despre recomandări AI și upsell în B2B	
description	Ghid practic despre recomandări, upsell și reguli comerciale: arhitectură hibridă, aplicații, cod, costuri și guvernare, cu exemple pentru companii B2B. Începe aici	
image	<a href="https://www.opti.ro/images/new-2025/i26-ghid-ai-vanzari-lansare.jpg">https://www.opti.ro/images/new-2025/i26-ghid-ai-vanzari-lansare.jpg</a>	
image	<a href="https://www.opti.ro/images/new-2025/i26-guide-ai-sales-launch.png">https://www.opti.ro/images/new-2025/i26-guide-ai-sales-launch.png</a>	
image	<a href="https://www.opti.ro/images/new-2025/guide-recommendations-upsell-rules-ai-b2b-2026.png">https://www.opti.ro/images/new-2025/guide-recommendations-upsell-rules-ai-b2b-2026.png</a>	
image	<a href="https://www.opti.ro/images/new-guide/guide-4/chapter2/pipeline-recomandari-ai.jpg">https://www.opti.ro/images/new-guide/guide-4/chapter2/pipeline-recomandari-ai.jpg</a>	
image	<a href="https://www.opti.ro/images/new-guide/guide-4/chapter2/middleware-izolat.jpg">https://www.opti.ro/images/new-guide/guide-4/chapter2/middleware-izolat.jpg</a>	
image	<a href="https://www.opti.ro/images/new-guide/guide-4/chapter3/arhitectura-smart-substitutes.jpg">https://www.opti.ro/images/new-guide/guide-4/chapter3/arhitectura-smart-substitutes.jpg</a>	
datePublished	2026-01-21	
dateModified	2026-03-23	
keywords	recomandări ai, upsell, cross-sell, reguli comerciale, arhitectură hibridă, b2b, integrare erp, guardrails, personalizare, ghid ai	
inLanguage	ro-RO	
proficiencyLevel	Intermediate	
mainEntityOfPage		
@type	WebPage	

**Partial example - TechArticle schema OPTI.RO. [See website](#)**



## ARCHITECTURE

The schema.org/JSON-LD implementation followed four repeatable steps across the three projects:



## A WORD FROM THE TEAM



*“Schema.org is the semantic link between the website and search engines or AI. The difference between a good and a poor implementation is graph consistency: the exact same entities, the same IDs, clear relationships, and verifiable data”*  
— **Daniel Curculescu, Software Engineer**



## RESULTS

### Effects achieved in 2 months for the B2B and e-commerce websites



#### Increase in non-brand B2B queries

OPTI.RO ranks for queries like “HubSpot ERP integration”, “Google Cloud partner Romania”, “Vertex AI Search for commerce”.



#### Fast and stable B2B indexing in Google

Service pages and long-form content (guides / case studies) were indexed immediately, bringing in news/event-type traffic spikes.



#### Increase in impressions and CTR in GSC (E-commerce)

Driven by new breadcrumbs and rich product details.



#### Increase in listing page indexing (E-commerce)

A significant drop in unindexed pages (or not served pages).



#### Reduction of orphan pages (E-commerce)

By standardizing breadcrumbs and listing arrays, deep categories and filters became stably indexed.



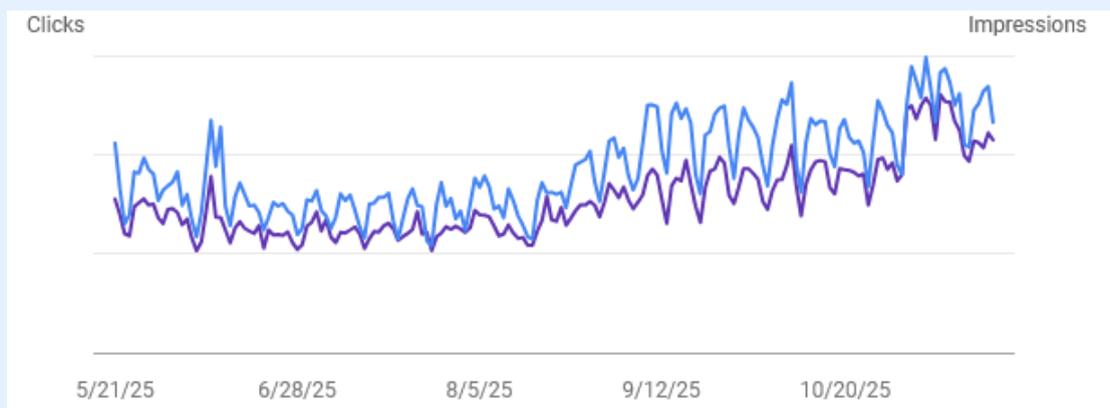
#### Appearance in AI Overviews (E-commerce)

Note: structured data does not guarantee rich results and AI Overviews, but it enables correct website understanding.

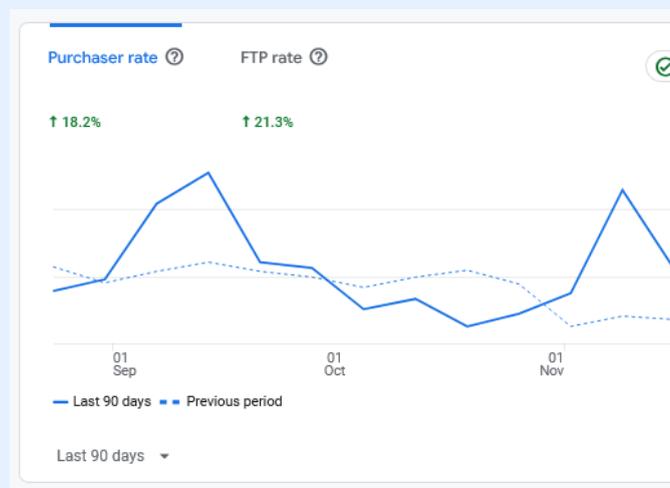
**Do you want your B2B or e-commerce website to be AI-ready, easy to understand, and widely citable in modern search results? [Let's talk](#)**

Search Appearance	↓ Clicks
Review snippet	196
Translated results	2

**Google Search Console – Availability of review snippets and translated results (B2B site)**



**Google Search Console – Clicks and impressions grew by ~70% compared to the three months before (E-commerce site, with simultaneous UX remake)**



**Google Analytics – Scale-up: purchase rate and the rate of first acquisition grew by ~20% (E-commerce site, with simultaneous UX remake)**

## TECH AND METHODOLOGY

**Services:** Technical SEO audit, schema design (graph-first), JSON-LD implementation, validation, regression testing, Search Console / indexing monitoring, internal guidelines, and team training.

**Tech Stack:** Schema.org, JSON-LD, Google Search Console, Rich Results Test, schema validators, CMS platforms, e-commerce (nop, custom), Server-side scripting (Node.js, PHP), automated QA.

### **Methodologies and best practices:**

- JSON-LD fully compliant with Google's recommendations.
- The schema strictly reflects visible content, in line with Google's policies.

**Standards:** ISO 9001 (quality), ISO 27001 (information security).

## TESTIMONIAL

*"After implementation, Google indexing became more stable, and our GSC results improved. For us, the value wasn't just in SEO, but in the fact that AI Overviews correctly understands our products and our store, ensuring we don't lose our broad audience."*

*— E-commerce manager*

# CONTACT

Direct	Address
 office@opti.ro	4 Dr. Ioan Nanu Muscel St.,
 +(40) 774 453 302	Bucharest, Romania
 <a href="http://www.opti.ro/en/">www.opti.ro/en/</a>	 



## LEARN MORE

- ⇒ Read on [AI-Ready Infrastructure for Web, Email and Sales](#) → - case study covering infrastructure update
- ⇒ Read the case study on [E-Commerce UX & SEO modernization](#) →
- ⇒ Read [The Guides for Integrating AI into B2B Workflows in 2026](#) →
- ⇒ View all [Our Software Services](#) →

# OPTI Software

**Intelligent business processes. Scalable results.**

We build software, AI agents, and HubSpot integrations together with Google Cloud services — backed by DevOps and ISO 27001 certifications.

Founded in 2005, OPTI works with senior analysts and developers, is a HubSpot Solutions Partner, a Google Cloud Partner, and holds certifications across multiple technology stacks.

## CERTIFICATIONS



## KNOW-HOW

