




Data Streaming and Communications for Civil & Defense Excellence

Bianor Services
Sofia, March, 2024



Bianor Services is:

**A trusted end-to-end
software service partner**




We provide niche tech specialization, delivering advanced mission-critical, real-time data transfer SecOps solutions and OTT video streaming platform development and services.

**A dedicated
IT consultant expert**



We help visionary enterprises from the Telecom, Media, IT, Aerospace and Defense industries succeed and drive positive change through technology.

**A forerunner
in software service delivery**



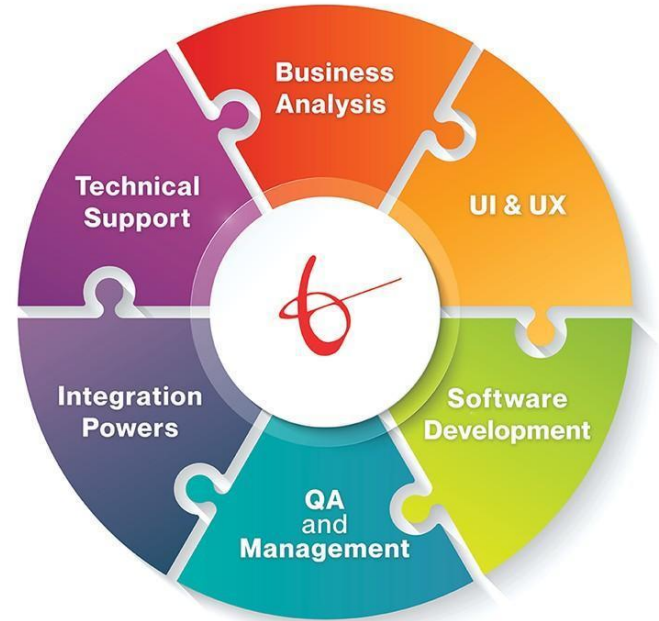
We build on 25 years of flawless reputation in technology innovation, domain expertise, and reliable engineering for clients like Northrop Grumman, AT&T, IBM, Indra, Leonardo, The Library of Congress, etc.



Service overview

Complete project lifecycle

We deliver complete IT solutions covering the entire software development lifecycle from Business Analysis to Technical Support and Maintenance.





Industry verticals

Aerospace & Defense



Bianor is a certified security affairs operator. It has a successful history of several large-scale mission-critical ventures for NATO and the EU. Currently, the company is a preferred software services vendor for large technology consortiums financed by the European Defence Fund.

Bianor partners with the world's defense industry leaders like Northrop Grumman, Indra, Leonardo, Thales, and Rheinmetall.

Telecom & Media



In the course of the last 15 years, Bianor has been developing profound expertise in the fields of video streaming and real-time data processing and transferring. The solutions implemented by the company serve millions of people, ensuring services provided by telco and media forerunners like AT&T, DirectTV, A1, Nova Broadcasting Group, and others.

The company has been at the core of the foundation of FITE, a premier digital platform for global sports and entertainment, now part of TrillerVerz Corp.

Customers

indra



P&G



Raritan.
A brand of legrand

DURACELL

LEONARDO

IBM



DIRECTV

BOSCH

THALES



LIBRARY
LIBRARY OF CONGRESS

SAMSUNG



Intershop

ASUS

HENRY SCHEIN

UniCredit



PHILIPS

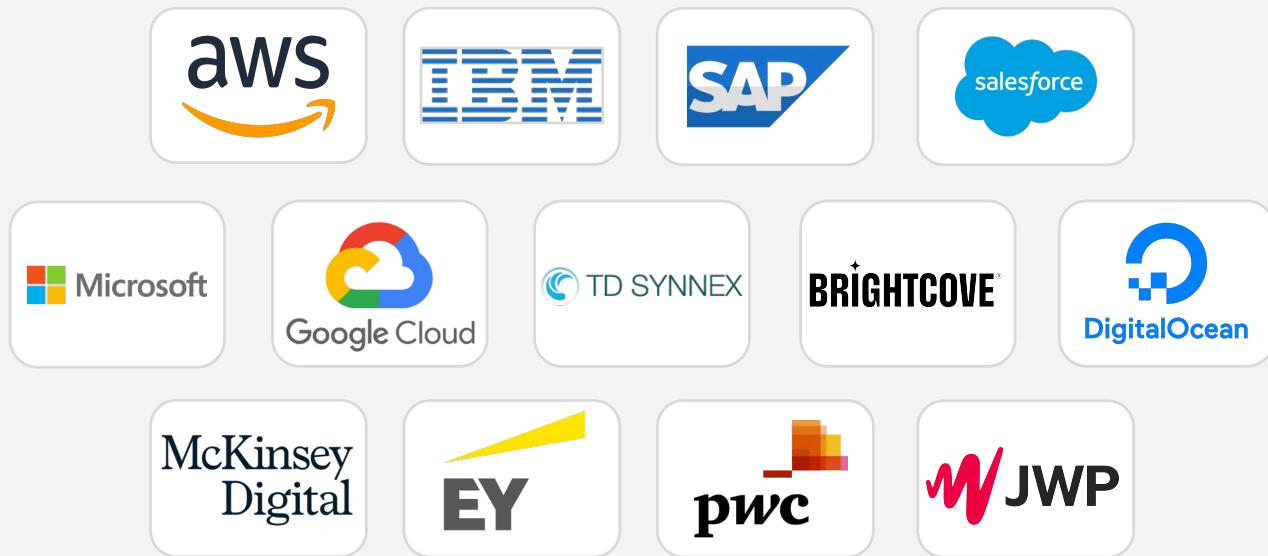
TECHNIDAT

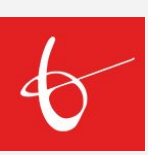
NOKIA

A1

VIVACOM

Partners





Tech expertise and services

Video Streaming for Civil Purposes

- OTT platform design & development
- Streaming services customization
- Video & image processing
- Real-time broadcasting / live streaming
- Video on Demand
- Proprietary streaming solutions
- Payment, monetization and Ad Blocking solutions

Real-time Data Transfer for Aerospace & Defense

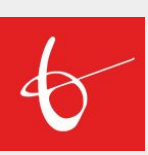
- Data processing & AI- powered analytics
- Data visualisation on workstations
- Dissemination of vast streams of data from various Sea, Air and Land stations
- Video streams and metadata real-time synchronization
- Interoperability with NATO STANAGs and civil standards



Tech stack

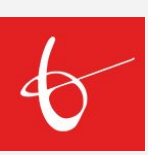


- ❖ Java Spring, Spring Boot, NodeJs, Python, C/C++, PHP
- ❖ JavaScript, jQuery, React, React Native, Angular, Vue.js, HTML, CSS, Redux, Zustand, Recoil
- ❖ Mobile Application development with native and hybrid technologies for iOS and Android
- ❖ AWS, Docker, Kubernetes, Elasticsearch, VirtualBox, Azure, GCP
- ❖ PostgreSQL, MongoDB, Redis, Oracle DB, MSSQL, MySQL, MariaDB, SQLAlchemy, Snowflake
- ❖ Jenkins, Git, GitHub, Bitbucket, Maven, Gradle
- ❖ Python - Scikit Learn, Pytorch, Tensorflow, FastAPI
- ❖ R - Tidyverse suite, Caret, Tidy Models, Torch
- ❖ Data Analytics, Natural Language Processing, Machine Learning, AI
- ❖ Selenium, Cucumber, Robot Framework
- ❖ Windows, Linux, macOS



Showcase projects





Showcase projects 1/9

Coding for a Safer World

NATO Alliance Ground Surveillance (AGS) project improves the in-theatre situational awareness

Bianor designed and delivered video streaming software. The project had to adhere to high mission-critical requirements for quality, speed, and reliability. Bianor proved as a trustworthy partner, which we recommend in other projects as well.

**Franco Barretti, Leonardo, NATO Programmes
Program Manager**

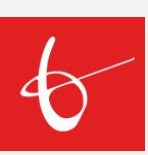
AGS is amongst the **largest and most comprehensive NATO projects** in recent years. It consists of a complete and integrated ground surveillance capability that delivers the Alliance and its nations unrestricted and unfiltered access to persistent wide-area terrestrial and maritime **surveillance data in near-real-time**.

Bianor's task was to develop a software module responsible for providing Main Operating Base and Transportable General Ground Station entities the functionalities of dealing with **motion and primary imagery data streams**, following respective NATO standards – STANAGs.

**NORTHROP
GRUMMAN**

 **LEONARDO**





Showcase projects 2/9

Long Endurance Solar UAV

Long Endurance Solar UAV (LESU) is an unmanned aerial vehicle (UAV) that gets charged via solar panels able to **fly for months without landing**, financed by the European Commission's Horizon 2020 Programme via the UFO Project.

Bianor is responsible for **establishing the communication flow** between the aircraft's onboard computer (OBC) and the ground station. The company develops the **communication software for OBC and the ground control station**.





Showcase projects 3/9

European Strategic C2 (ESC2) System

Establishment of a European Strategic Command and Control System providing complete operational interoperability among C2 structures and systems of the EU, its member states, NATO, and civil agencies.

Bianor takes part in the project under **INDRA**'s coordination and in partnership with **Leonardo, Rheinmetall, Thales** and **Rohde & Schwarz**. The company contributes to the communications domains in the VoIP/video capabilities and NATO interoperability, including preparation of the architectural and system designs.



indra



Showcase projects 4/9

Comprehensive Underwater Intervention Information System

Underwater technologies for physical support and recovery of divers by building a command, control, communications, and information (C4I) mission system. The project is financed by the EDIDP, coordinated by the Bulgarian Defense Institute.

Bianor works on the CUIIS System design and CUIIS elements prototyping. This includes the delivery of System of Systems Requirements, Software and Interface Detail Design, and Hardware Design Description.





Showcase projects 5/9

An OTT Platform for TV

Providing a 24/7 live stream of four TV channels and VOD services to over 600k active users

Bianor's overall background and particular know-how in building OTT platforms and video streaming solutions made them the excellent partner for this compelling project. We are truly delighted by the high level of competence and responsiveness of Bianor's team.

Dirk Gerkens, Nova Broadcasting Group CEO and United Media BoD member

Nova Broadcasting Group (NBG), part of the United Group (UG) and one of Eastern Europe's **largest multi-platform media and technology companies**. NBG had already been using a prominent streaming services provider, but needed more independence and greater flexibility.

Bianor developed a **complete OTT solution** including the admin back-end and a user interface. It offers easy scalability to meet the market dynamics and **constantly growing user base**. The platform supports any current web browser, native iOS and Android apps, and the Android TV app and Chromecast.





Showcase projects 6/9

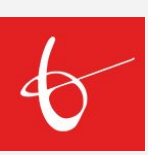
Telecom Austria Group - IPTV service

A single Sign-On gateway for A1's OTT services.

After an in-depth business analyzes and **technical due diligence** Bianor built an API-to-API translation layer to support **integration between multiple backend systems**.

The company developed a web interface to the existing IPTV platform with **Single Sign-On and DRM-enabled playback**.





Showcase projects 7/9

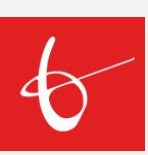
DirecTV - Broadcast and Set-Top-Box Monitoring

The Operational Teams in DirecTV needed:
Continuous recording of important transponders on Broadcast Downlink; **Persist bit-stream files** for given set of Transponders and recording window; Broadcast downlink close to **real-time Analyzing & Monitoring**; To create **Broadcast Historical Snapshots** to facilitate testing for areas where a DTV connection is not available or not possible.

Our team maintains and further develops the software monitoring system and **improves performance** of DirecTV's broadcasting facilities. Bianor's team helps the operation team to identify issues related to Live-TV impacting DirecTV Entertainment customers.



DIRECTV



Showcase projects 8/9

Audio Visual Conservation

The US Library of Congress hosts **over 1.1 million movies and video items**. With a collection ranging from motion pictures made in the 1890s to today's TV programs, the Library holds an unparalleled record of American and international creativity. Over 110 years of history is represented in **every possible audio and video format**, covering a wide range of subjects and genres in considerable depth and breadth.

Bianor created a workflow system covering the whole process from **ingestion of the digital content** into the servers to the public access of the entire audio-visual catalog of the library. The solution processes **five petabytes of materials** annually.



Showcase projects 9/9

Streaming platform for sports and entertainment

FITE streams a rich array of live pay-per-view events, subscription packages and thousands of hours of live, VOD and free programs to millions of fans around the world. It streamed exclusively **the biggest digital PPV event** of all time - Mike Tyson vs. Roy Jones Jr. and regularly streams multi \$M revenue shows.

Bianor developed the **complete OTT streaming platform** offering flexible scalability and immense reliability on following layers:

- Ingestion, cutting transcoding of data
- Content management system
- Front-end clients
- Highly available, secure and scalable cloud infrastructure

FITE
BY TRILLER

Why Bianor Services



Experienced team



We are an organization of highly competent professionals with various backgrounds and expertise in different fields of the IT sphere. This guarantees we can provide the right competence for any IT-related task.

Turnkey operation



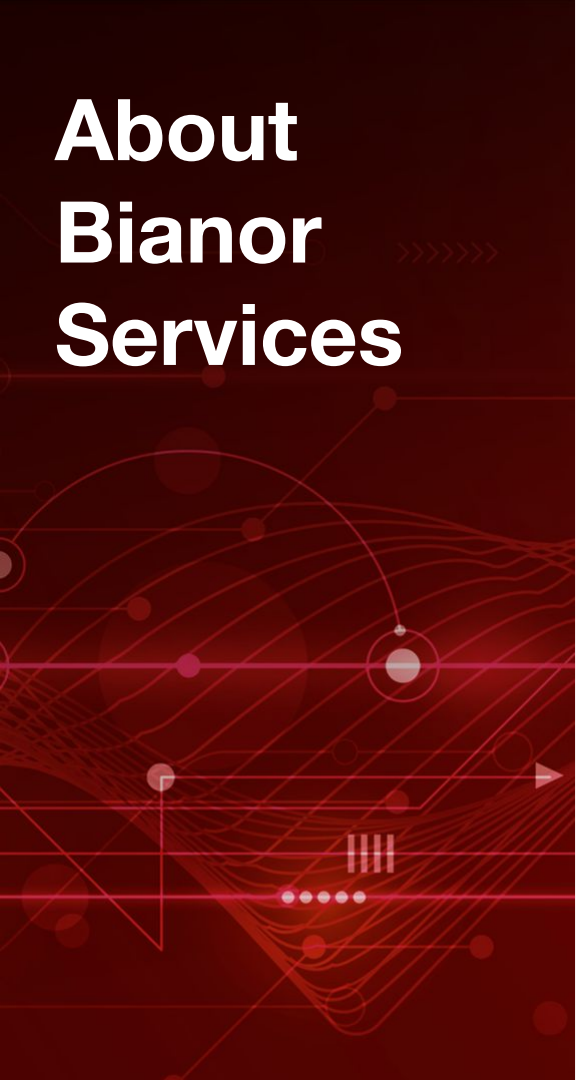
Thanks to our diverse expertise and niche specialization in multiple technology areas, we deliver comprehensive technological and business solutions, empowering organizations to grow and build sustainable competitive advantage.

Reliable partner



Our quality certificates and security clearances prove Bianor Services to be a solid partner capable of solving any technology challenge for the world's industry leaders.

About Bianor Services



Public company

Bianor was established in 1998. It is headquartered in Sofia, Bulgaria and operates an NY-based US consulting office. Bianor's parent company is listed on the Bulgarian Stock Exchange.

Human capital

We have a pool of 200+ leading software engineers and computer scientists across multiple delivery centers in Bulgaria and Greece.

Certifications

The company utilizes ISO 9001 and NATO AQAP 2110/2210 certified processes and possesses national, EU, and NATO classified information clearances.



Bianor group



Bianor Services works in the field of real-time data streaming for defense, telco, and media industry clients like AT&T, Indra, IBM, Leonardo, and Northrop Grumman.

ITIDO creates end-to-end software solutions - from research & discovery to regular releases and maintenance for customers such as Bosch, Nokia, Aurubis, and Epsom.

GotoAdmins specializes in DevOps, cloud services migration & management, and digital transformation, partnering with tech leaders like AWS, Azure, Google Cloud, and Digital Ocean.

Databreathe implements projects in the sphere of AI and machine learning, mainly for North American customers working in the online retail sector.

Thank you for your attention!

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