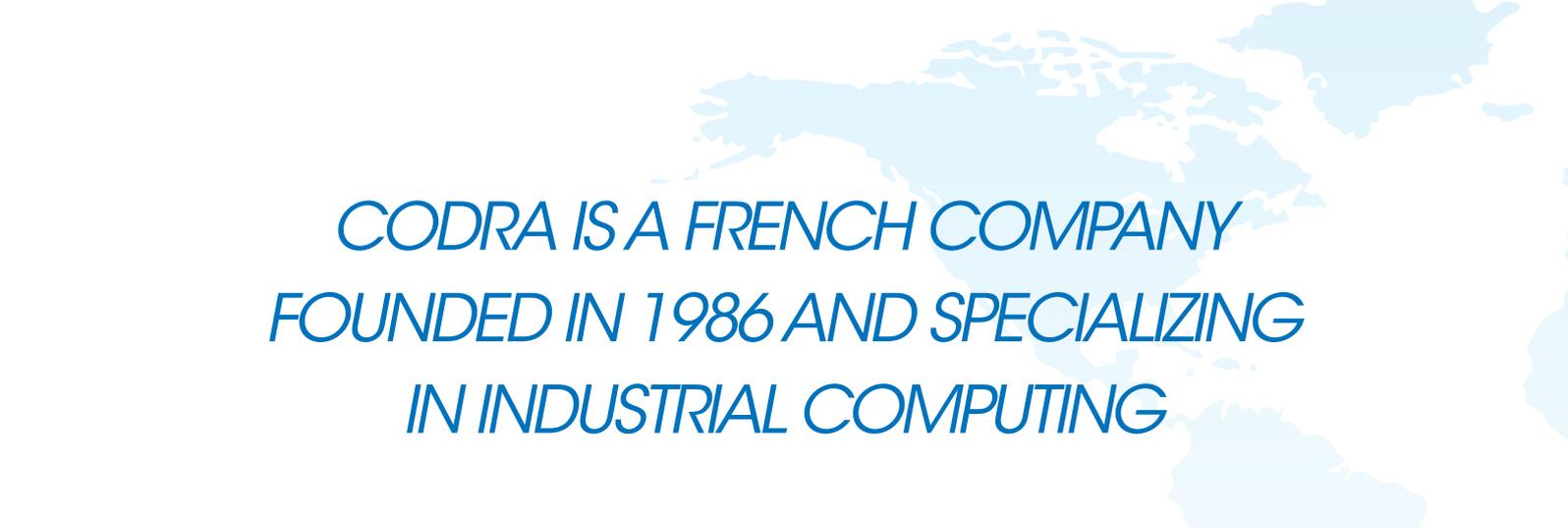


EXPERTISE IN INDUSTRIAL AND TECHNICAL COMPUTING



CODRA



*CODRA IS A FRENCH COMPANY
FOUNDED IN 1986 AND SPECIALIZING
IN INDUSTRIAL COMPUTING*

CODRA HAS TWO BUSINESS LINES

A COMPUTER SERVICES COMPANY

Codra is a computer services firm specializing in industrial, technical, and embedded computing. We develop software on a flat-rate basis and provide technical assistance on projects of all sizes across a wide range of industries : Automobile, Rail, Consumer Electronics, Multimedia, Energy, etc.

A SCADA SOFTWARE DEVELOPER

Codra develops and distributes the software and provides expertise, technical support, and training for the entire Panorama range. Codra is the recognized market leader in all fields : FM/BMS, Water, Energy, Transportation, Chemicals/Pharmaceuticals, Process control, Food, Oil and Gas, Safety/Security, etc.



**“ OUR VALUES :
QUALITY, TECHNOLOGY,
SUSTAINABILITY AND PEOPLE ”**



**“ CODRA IS IN PERPETUAL MOTION :
WE ADAPT TO EACH
TECHNOLOGICAL BREAKTHROUGH ”**

CERTIFIED QUALITY

Quality is part of our identity: technical expertise and attention to customers are inseparable. We provide the same commitment and level of expertise for all your projects, whether for developing a Building Management System (BMS) or monitoring a nuclear power plant.

Codra has ISO 9001 certification.



TECHNOLOGY

Codra works in an environment with ever-changing technologies. We perform extensive technology monitoring in order to maintain our staff's recognized expertise.

THE OBJECTIVE : alleviate our customers of technical concerns (reliability, longevity, open design, upwards compatibility, etc.) without compromising on quality.



“ PRIORITY FOR CODRA, IS TO INSTALL A LASTING RELATIONSHIP OF TRUST WITH ITS CLIENTS AND PARTNERS ”

ONE STRATEGY : SUSTAINABILITY

CODRA FOCUSES ON THE LONG TERM. WE SPECIALIZE IN PROJECTS WHERE LONGEVITY IS ESSENTIAL (MILITARY, NUCLEAR, PROCESS CONTROL, ETC.).

OUR PRIVILEGED RELATIONS WITH LONG-TERM CLIENTS IN KEY INDUSTRIES TESTIFIES TO OUR RESPONSIBILITY AND RELIABILITY.

We keep our customers satisfied by providing dependable results through innovative solutions. Furthermore, Codra has solid financial backing.



PERSONNEL

Codra's teams have proven professional experience: the average age of our staff is 39. The training and the high degree of qualification of our engineers guarantees the success of your projects. Our employees provide local technical expertise: we can react quickly. We adapt our services to meet your needs.

MADE IN FRANCE

Codra is committed to quality and we maintain total control of our products: all our software is developed in-house.

INTERNATIONAL

Codra is expanding abroad with references worldwide (the United Kingdom, Luxembourg, Algeria, Morocco, Qatar, Korea, India, Canada, Mexico, the United States, Australia, etc).

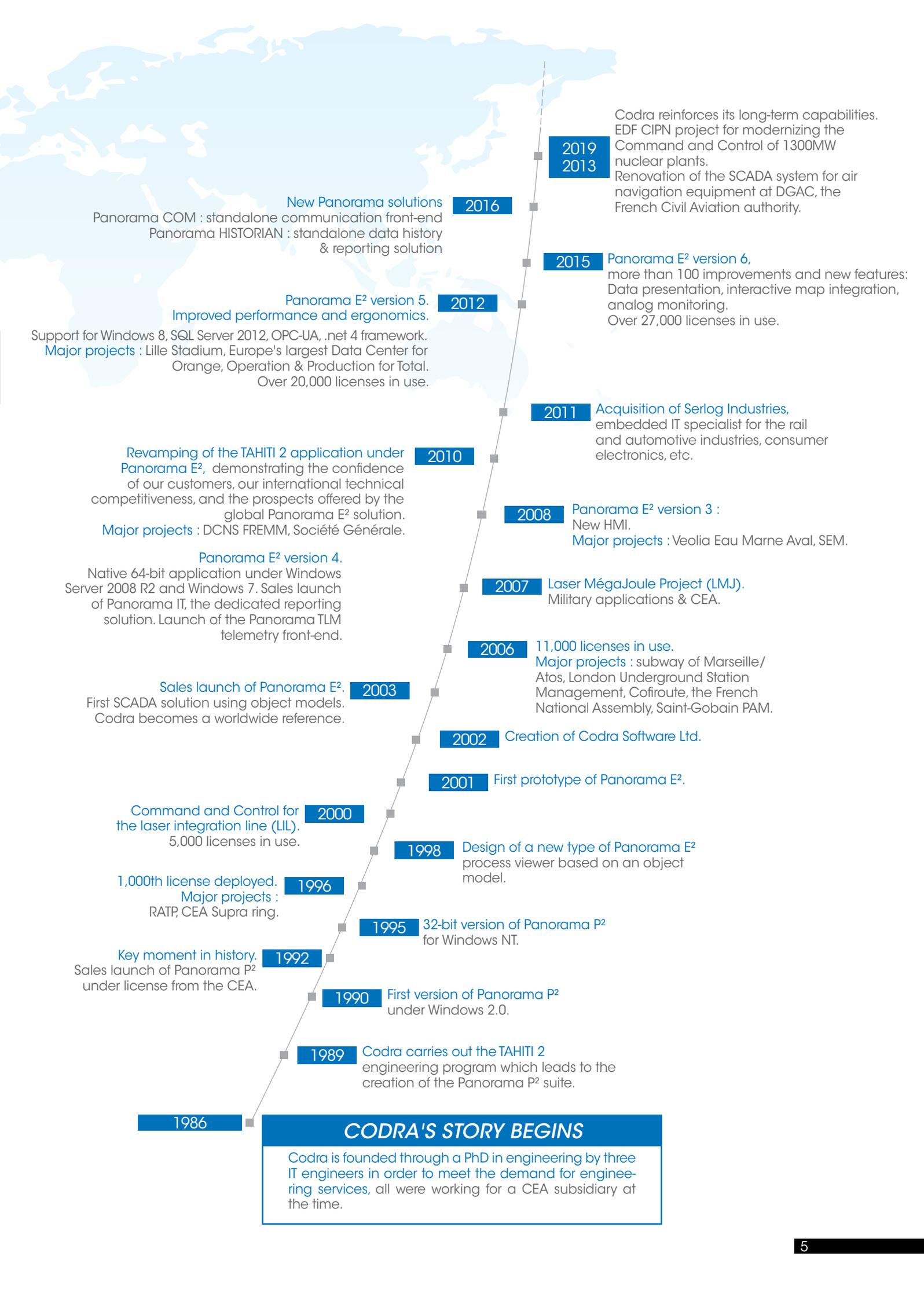
The integration of international industrial practices adds to our teams' technical skills: we can intervene anywhere and in any environment.



>CUSTOMER TESTIMONY !

“WE WERE IMPRESSED BY CODRA'S CAPACITY TO MEET OUR TECHNICAL REQUIREMENTS ON A VERY TIGHT SCHEDULE”

Adrien FREYBURGER,
Electricity Section Manager, EDF



1986

CODRA'S STORY BEGINS

Codra is founded through a PhD in engineering by three IT engineers in order to meet the demand for engineering services, all were working for a CEA subsidiary at the time.

1989

Codra carries out the TAHITI 2 engineering program which leads to the creation of the Panorama P² suite.

1990

First version of Panorama P² under Windows 2.0.

1992

Key moment in history. Sales launch of Panorama P² under license from the CEA.

1995

32-bit version of Panorama P² for Windows NT.

1996

1,000th license deployed. Major projects : RATP, CEA Supra ring.

1998

Design of a new type of Panorama E² process viewer based on an object model.

2000

Command and Control for the laser integration line (LIL). 5,000 licenses in use.

2001

First prototype of Panorama E².

2002

Creation of Codra Software Ltd.

2003

Sales launch of Panorama E². First SCADA solution using object models. Codra becomes a worldwide reference.

2006

11,000 licenses in use. Major projects : subway of Marseille/Atos, London Underground Station Management, Cofiroute, the French National Assembly, Saint-Gobain PAM.

2007

Laser MégaJoule Project (LMJ). Military applications & CEA.

2008

Panorama E² version 3 : New HMI. Major projects : Veolia Eau Marne Aval, SEM.

2010

Revamping of the TAHITI 2 application under Panorama E², demonstrating the confidence of our customers, our international technical competitiveness, and the prospects offered by the global Panorama E² solution. Major projects : DCNS FREMM, Société Générale.

2011

Acquisition of Serlog Industries, embedded IT specialist for the rail and automotive industries, consumer electronics, etc.

2012

Panorama E² version 5. Improved performance and ergonomics. Support for Windows 8, SQL Server 2012, OPC-UA, .net 4 framework. Major projects : Lille Stadium, Europe's largest Data Center for Orange, Operation & Production for Total. Over 20,000 licenses in use.

2015

Panorama E² version 6, more than 100 improvements and new features: Data presentation, interactive map integration, analog monitoring. Over 27,000 licenses in use.

2019
2013

Codra reinforces its long-term capabilities. EDF CIPN project for modernizing the Command and Control of 1300MW nuclear plants. Renovation of the SCADA system for air navigation equipment at DGAC, the French Civil Aviation authority.

New Panorama solutions
Panorama COM : standalone communication front-end
Panorama HISTORIAN : standalone data history & reporting solution



**“ A 100% HOME-GROWN
SOLUTION GIVES US
100% CONTROL ”**

THE PANORAMA BUSINESS LINE

PANORAMA SUITE, PUBLISHED BY CODRA, IS A GLOBAL SOLUTION FOR INFORMATION SYSTEMS OFFERING A FULL RANGE OF SOFTWARE : SCADA, DATA HISTORY / REPORTING, COMMUNICATION FRONT-END. PANORAMA SOLUTIONS ARE DESIGNED FOR ALL INDUSTRIES AND GOVERNMENT ORGANIZATIONS WITH NEEDS FOR OPERATING, MONITORING, TRACKING THE HISTORY AND ANALYSIS OF THEIR FACILITIES. INTERNATIONAL SALES AND MARKETING ARE MANAGED BY CODRA SOFTWARE LIMITED, AN ENGLISH COMPANY AND A WHOLLY-OWNED SUBSIDIARY OF CODRA. PANORAMA IS THE LEADING SOLUTION FOR SCADA AND ITS APPLICATION.

DEVELOPED FOR MORE THAN 25 YEARS,
PANORAMA INCLUDES THE FOLLOWING MODULES :

PANORAMA E² latest-generation SCADA software. This multi-purpose platform is ideal for building modern applications requiring an open design with exceptional reliability and the latest technology.

PANORAMA H² data collection from your facilities (Panorama or others). This reporting tool simplifies plant maintenance and the analysis of your production performance: consumption, KPI indicators, productivity, etc.

PANORAMA COM communication front-end particularly well-suited to intermittent transmissions and intermittent links. This full-fledged OPC server supports a plethora of standard protocols.

PANORAMA P² Codra's historic SCADA solution published under license from the CEA. This powerful application generator is used extensively for industrial Command and Control.

DEDICATED SOFTWARE DEVELOPER

Codra markets a range of software developed entirely in-house. Thanks to this total autonomy, we have the capacity to improve and enhance our solutions. As both developer and distributor, we address our customers with unrivalled responsiveness.



**“ QUALITY OF SERVICE IS A KEY BENEFIT
OF THE PANORAMA OFFER. WHEN YOU
CONTACT CODRA, YOU DEAL DIRECTLY
WITH THE SOFTWARE VENDOR ”**

Laurent JOLI,
Project Manager, CEA



PANORAMA SUPPORT

PANORAMA EXPERTS can provide pre-sales assistance (consultancy, conformity checks, prototyping, etc.) as well as support both during the project (setting up the methodology, tracking progress, validation) and after delivery (application audits).

PANORAMA SUPPORT is provided by experienced Technical Support Engineers. Panorama's multi-disciplinary team handles customer queries during project development, implementation and on-site operations, and offers training and customer assistance.

ON-SITE INTERVENTION teams can perform a diagnosis and apply their expert knowledge directly at your plant.

INTEGRATORS AND MAINTENANCE CONTRACTS
PCI & PMC : Extended Support and Software Warranty Contracts are designed to help both integrators and operators develop Panorama applications under optimal conditions and provide global plant maintenance.

TRAINING PROGRAMS help integrators start up operations and transfer the knowledge required to deploy Panorama solutions.



Alarms



MES & Reporting



Object oriented technology



Virtualisation



Telemetry



Human-Machine Interface



Diagnostics



Specific applications



CCTV



Remote Control



Users Profiles



Automation



Real Time



Sécurité



Standardized applications



ENGINEERING BUSINESS LINE

CORE BUSINESS

CODRA TEAMS CONTINUOUSLY MONITOR EMERGING TECHNOLOGIES IN ORDER TO SUCCESSFULLY ADDRESS OUR CUSTOMERS' CONCERNS.

THE DEVELOPMENT AND INTEGRATION OF CUSTOM SOFTWARE SOLUTIONS FOR INDUSTRIAL, SCIENTIFIC AND EMBEDDED APPLICATIONS IS OUR CORE BUSINESS.

SERVICES

- Development of new projects.
- Revamping of legacy solutions in order to ensure the longevity of your infrastructure and take into account new demands.
- Evolutive and corrective system maintenance over extended periods (more than 15 years for certain projects).
- Analysis, audits and consulting: drafting of master plans, system architectures, technical and functional specifications, definition of interfaces, verification and validation (V&V), sustainability analysis, risk analysis.
- Technical assistance: one-off technical expertise services.

AUTOMATION AND COMMAND AND CONTROL

Our team has specific know-how in the following areas :

- Computer-integrated material handling: management and control of product workflow on production lines.
- Supervision and control: acquisition, analysis and management of data relating to industrial processes.
- production tracking: product traceability, quality control, resource monitoring, etc.

TEST AND MEASUREMENT SYSTEMS

Codra offers expertise in developing test beds and implementing instrumentation systems :

- test beds are designed to verify that the system complies with its specifications.
- experimental systems seek to determine process characteristics in order to compare them with theoretical analysis.

SCIENTIFIC COMPUTING

Codra engineers have the scientific background required to work efficiently in engineering offices and research laboratories. Customers delegate their IT jobs to us that focus on modeling and simulations.

EMBEDDED AND REAL-TIME SYSTEMS

The development of embedded systems requires knowledge of both IT and electronics. Our teams have the expertise to meet our customers' system requirements. Furthermore, embedded systems often use "hard" real-time systems.

**“ CODRA ALWAYS STAYS ON COURSE,
EVEN WHEN THE UNEXPECTED OCCURS.
WE KEEP OUR COMMITMENTS ”**

MANAGING YOUR PROJECTS

CODRA PROVIDES CUSTOM DEVELOPMENT ON A FLAT-RATE BASIS. FOR EACH PROJECT, PROJECT DIRECTORS AND ENGINEERS DEFINE A FIXED PRICE WITH AN OBLIGATION OF RESULTS.

IN OVER 30 YEARS, OUR TEAMS HAVE NEVER FAILED TO SUCCESSFULLY COMPLETE A PROJECT.

WE CONTINUOUSLY ADAPT OUR KNOW-HOW THANKS TO EXTENSIVE TECHNOLOGY MONITORING.

OUR AREAS OF EXPERTISE

Standard operating systems :
Windows, Linux (including cluster),
Open VMS, etc.; real-time: Vxworks, VRTX,
etc.; Smartphones: Android, iPhone,
Windows Phone.

Object-oriented design and
associated technologies :
C, C++, C#, .net, python, Java/J2EE, etc.

DBMS : SQL Server, Oracle, Oracle RdB,
MySQL, PostgreSQL, etc.
Reporting : B-O, Reporting services,
Crystal Report, etc.

Distributed architectures : Corba, RMI,
Tango, EPICS, Com/Dcom, .net remoting
services, etc.

Web services and SOAs

Communication protocols and networks :
: Media (serial, Ethernet, GSM, GPRS, satel-
lite, etc.); standard (MODBUS/JBUS, OPC
including UA, etc.); business-specific (ra-
dioprotection, seismic, telemetry, etc.)

GIS: qGis, openlayers, GeoConcept, arc-
Gis, etc.

Virtualized environments : Vmware (vCent-
er, vSphere), Hyper-v, etc.

METHODS

We use a specific organization and
methodology according to your project's
requirements :

- Development methodology :
V cycles, Agile development
- Modeling : UML
- Human factor approach: analysis to
prevent human errors which might trig-
ger incidents
- Automatic test methodology and tool-
ing
- IT security :
ISO 2700x
- Software quality measurement: :
ISO 9126, etc.
- Prototyping methodology :
Ergonomics and Processes
- Nuclear safety Command and Control
: CEI 61513,
CEI 62138, etc.
- Industrial IS security



AN INTERNATIONAL PARTNER

CODRA WORKS CLOSELY WITH A NETWORK OF SOME 200 CERTIFIED PARTNERS (INTEGRATORS AND DISTRIBUTORS) IN FRANCE, BELGIUM, GERMANY, HUNGARY, IRELAND, ITALY, PORTUGAL, SWITZERLAND, UNITED KINGDOM, CANADA, THE UNITED STATES, ETC.

FIELD OF ACTIVITY & REFERENCES

ALREADY DEPLOYED WITH TENS OF THOUSANDS OF LICENSES, PANORAMA WAS ABLE TO CONVINCE ALL FIELDS OF INDUSTRY :

TELEMETRY / DISTRIBUTION

AGIP, ALGERIAN WATER, EDF-RTE, GASCO, GAS OF TURKEY, GDF, GRAND LYON, SERAM, SIAAP, MARSEILLE WATER, VEOLIA EAU, ...

BMS-FM / INFRASTRUCTURE

ADP, AIR FRANCE, ALSTOM TRANSPORT, ATOS, BANK OF FRANCE, BANK OF ENGLAND, BRIDGESTONE, CARREFOUR, CARRIER, CASINO BARRIÈRE, CEA, EADS, ORANGE DATA CENTER, PARIS FIREHALL, POPB, PSA, RATP, RTBF, SANOFI, SNCF, SNECMA, SOCIÉTÉ GÉNÉRALE, BORDEAUX / LILLE / LYON STADIUM, SUEZ ENVIRONNEMENT, SYCTOM, THALES, THYSSEN KRUPP, TURBOMECA, VALEO, ...

ENERGY / NUCLEAR

ANDRA, AREVA, CEA, DALKIA, EDF, IRSN, ...

ENERGY / ENVIRONMENT

ALSTOM GRID, CNR, DALKIA, EDF-RTE, GASCO, GAZ OF BORDEAUX, GDF/ENGIE, SHANGHAI & XIAN CITY, NATIONAL GRID, SIAAP, TALISMAN ENERGY, TOTAL, WESTINGHOUSE FUELS, ...



> CUSTOMERS TESTIMONY !

“ CODRA IS A RELIABLE PARTNER ON WHICH INDUSTRIAL FIRMS CAN COUNT ON FOR THEIR CUSTOM SOFTWARE PROJECTS ”

Philippe DUBOIS,
Fixed Equipment System Manager, Eurotunnel



NETWORK



> CUSTOMERS TESTIMONY

“ THE STABILITY, THE OPEN DESIGN AND
THE TECHNICAL QUALITY OFFERED BY PANORAMA E²
IS WHY WE TURNED TO CODRA’S SOLUTION ”

William PERICAUD,
Manager of Automatic Control, Veolia Eau Maintenance Department

MILITARY / SAFETY-SECURITY

AIR FRANCE, CEA, DCNS, DGAC, NAVY (AUSTRALIA, CHILI, FRANCE, KOREA), CHARLES DE GAULLE AIRCRAFT CARRIER, SIEMENS, SOCIÉTÉ GÉNÉRALE, THALES, ...

INDUSTRY / MANUFACTURING

ARCELOR MITTAL, ASCOMETAL, BASF, CEA, CIMENTS CALCIA, DANONE, DASSAULT AVIATION, DHL, ELASTOGRAN, EURALIS SEMENCES, GASCO, JOHN DEERE, JOHNSON CONTROLS, KRAFT JACOBS SUCHARD, LA POSTE, LA REDOUTE, LEVI'S, MOËT & CHANDON, NESTLÉ, NICOLAS FEUILLATTE, PAM, PEERLESS, PERRIER VITTEL, PHILIPS, RENAULT, ROYAL MAIL, SADE, SAFRAN, SAINT-GOBAIN, SMART, SNECMA, SONY, ST MICROELECTRONICS, STAPLES, THOMSON, TOTAL, TURBOMECA, UNIROYAL, VALEO, ...

TRANSPORTATION

AIRPORTS (NICE, ORLY, BIRMINGHAM, CHARLEROI, CASABLANCA, LOS ANGELES), ALSTOM TRANSPORT, BOMBARDIER, PARIS RING ROAD, COLAS RAIL, EUROTUNNEL, UNDERGROUND (BARCELONA, LISBON, LONDON), HAVRE HARBOUR, RATP, KOREA HIGH-SPEED TRAIN, THALES, TRAMWAYS (ANGERS, BORDEAUX, CLERMONT-FERRAND, DIJON, LE HAVRE, NICE, ORLEANS, TOURS)...

HYPERVISION / ENERGY EFFICIENCY

ADP, CRAM, BORDEAUX CITY HALL, ORANGE DATA CENTER, MARSEILLE TRANSPORTATION, SNECMA, SOCIÉTÉ GÉNÉRALE, ...

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