

 Amiens  
la cathédrale en couleurs

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A unique 3D experience

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# A unique augmented reality experience

Since its restoration, Amiens Cathedral - which is listed as a UNESCO World Heritage Site - has established itself as the prime example of a re-creation of the polychromatic appearance of Gothic portals. This amazing discovery led to the creation of the "Amiens, la cathédrale en couleurs" show which offers a re-creation of the medieval colours, by projection of high-definition digital images.

This free show, which has already been witnessed by more than eight hundred thousand visitors, brings the saints, apostles and other figures that populate the cathedral back to life.

In addition, in order to make this adventure even more exciting, Amiens has become the first city in France to offer the general public an augmented reality experience. With a simple click, we offer you a unique experience for the whole family, in front of your computer screen.

Situated 1½ hours away from Paris and Lille, 2 hours from Brussels and 4 hours from London, Amiens Cathedral invites you to discover its dazzling architecture and the intensity of its newly re-created colours.

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## From stone to colour

The story of an amazing discovery

**A true technical feat, Amiens Cathedral is one of the finest jewels of classic Gothic architecture. Amiens Cathedral is listed as a UNESCO World Heritage Site. Since its restoration it has established itself as the prime example of re-creation of the polychromatic appearance of Gothic portals.**

In the Middle Ages, the sculpted décors of churches, as well as certain architectural features, were painted in bright colours. The polychromes, rediscovered on the portals of Amiens Cathedral, reveal the use of bright colours on the whole of the sculptures from the 13<sup>th</sup> century onwards.

The statement of purpose of the agreement (signed at Amiens on 25<sup>th</sup> November 1994) gives a clear explanation of the restoration programme's choices: "The scientific knowledge gained thanks to this restoration, in particular with regard to the use and meaning of polychromy, itself constitutes a common heritage which should above all be made use of at the very site from which it originates, and contribute to the cultural development of the City, the French department and the region. Amiens is the birthplace of the debate concerning the partial and reversible restitution of a certain number of sculpted architectural features, in accordance with the information provided by science, making it possible to evoke the way cathedrals were in the past."

### ■ An exemplary restoration

Laser cleaning of the Southern portal, which is dedicated to the Virgin and known as the portal of the Mother of God (Mère-Dieu), began in 1992. Having been tested over several years in the Historical Monuments research laboratory of Champs-sur-Marne, this was the first time that the laser was used on a life-size scale, thanks to the setting up of a mobile laser. >>

**1972:** Signature of the UNESCO World Heritage Site agreement

**1981:** Amiens Cathedral, which was principally built between 1220 and 1280, is listed as a World Heritage Site.

**1992:** Initiation of the restoration programme on the cathedral's western façade, involving the partial use of lasers and investigation of polychromy.

**1993:** Opening of the restoration work site, with the cleaning of the southern tower and of the porch of the Mère-Dieu, located at its base.

**1994:** Signing of the agreement establishing the financial partnership for the restoration of the western façade of Amiens Cathedral. The City of Amiens, the Conseil Général de la Somme (Council of the French department of the Somme) and the Région Picardie (Region of Picardy) come together to offer their support to the French State in order to bring further improvements to the restoration of the cathedral's façades. Each of the regional authorities accordingly contributes in the order of €305,000 per year, that is to say €915,000, the same as the share provided by the State.

**1998:** Amiens Cathedral is listed as a UNESCO World Heritage Site, as a site of pilgrimage on the Routes of Santiago de Compostela in France

**1999:** At the end of the work on the cathedral's western façade, the total cost of the operation came to €11,000,000.

## History

The laser technique, which became famous at Amiens, is also known as photon beam incrustation removal. It consists of identical low-intensity light particles, emitted at high power, following a pattern of very short pulses. The wave thus causes micro-resonance in the layer of dirt, which crumbles away. Acting with a delicate touch, the laser perfectly preserves the surface of the stone.

On the cleaned parts, both on the Mère-Dieu portal and the Beau-Dieu portal, a few traces of polychromy had already been discovered on the base quatrefoils and on some column statues, where the weather and the ravages of time had left their mark.

On the other hand, sheltered in the splayed apertures, arches and tympana, the blues, greens, reds, ochres and golds re-emerge.

This decorative painting was done in the 13<sup>th</sup> century, although certain colours were altered over the centuries, according to changes in tastes or liturgy. Through this progressive discovery of the colours, proof has thus been established at Amiens that Europe's Gothic cathedrals had painted façades.

Although it is not conceivable to consider repainting the whole of the western façade of Amiens Cathedral, other means may certainly be used. The use of light provides an alternative.

On the basis of the research carried out by the various restorers and the laboratory of Historical Monuments, with regard to the nature and dating of the coloured pigments used in the Middle Ages at Amiens, scientific information has made it possible to precisely define the colours to be reproduced.

**The results are exceptional.** The sculptures and architectural features are adorned in the wonderful colours of the Middle Ages, as though the artists, on their scaffolding, had once again applied the pigments with their brushes. The magic of this colour reproduction offers a completely new dimension to our appreciation of medieval architecture.





# A unique technical system

Behind the scenes of the event

The artistic conception of the “Amiens, la cathédrale en couleurs” show is designed to restore the medieval polychromy on the portals of the western façade of Amiens Cathedral. The latter is one of the rare edifices able to bear witness to the period of cathedral painting.

The re-creation of the polychromes, with progressively improved fidelity, success and precision, required the design of specific projection and sound equipment, of very high technical quality, for the Amiens project.

## ■ Projection of images

The principle of re-creation is based on image projection. The portals of the façade are photographed. The images are digitally processed for the correction of optical illusions, in order to colour the sculptures and make use of shadow, ensuring the disappearance of the projection angles and the reduction of their tint areas. The images thus produced are then projected. Because of their depth, the portals are coloured using two images, one for the left-hand part (garden side) and the other for the right-hand part (courtyard side). On the other hand, for the whole of the façade, two images are also necessary, one corresponding to the upper and one to the lower parts. >>

### ■ Repetitive image changes

The fixed images, used for the portals, need to be renewed regularly, because of their prolonged exposure to the heat and UV of the lamps. In order to replace them at regular intervals, they are mounted on scrollable film. These images are more permanent and require less handling. They also have the benefit of motorised changing and setting, simplified through horizontal alignment of the film during its lateral movements, without manual operations on the projectors.

### ■ Let there be light!

In total, 9 projectors are necessary for the show, 1 for the illumination of the rose window (placed inside the cathedral), 6 for each of the 3 portals and 2 for illuminating the façade. All of the projectors placed on the exterior, on the cathedral square, are positioned so as to leave a cone of vision, free of any technical apparatus, in the axis of the cathedral façade.

In order to achieve this objective, the Metropolitan area of Amiens has carefully placed 2 projection booths in the foreground, each containing 2 projectors, and 3 other projection booths in the background, at the end of the cathedral square. The sound and image equipment as a whole is designed to make allowance for the constraints linked to its proximity to a Historical Monument as well as, and above all, for its proximity to the area's numerous inhabitants and to the audience.

Here, two projectors of higher power are repositioned in the cathedral axis. This positioning makes it possible to obtain optimal definition on the façade, through intensification of brightness and correction of distortions.

The scrolling image projectors are equipped with powerful and very high-quality lenses and also possess an optical positioning determination system, making it possible to harmonise luminosity levels between the three portals, as well as optimising the quality of the images in terms of clearness, brightness, colour saturation, and correspondence to the relief form of the sculptures over the whole of the portal surface area.

In order to avoid any movement of the projectors caused by the wind, variations of temperature or atmospheric humidity, and therefore changes in the position of the projected images, the projectors are placed on base stands that are independent of the sides of the booths created for the Amiens metropolitan area.





# he cathedral

800 years of history

The Cathedral Notre-Dame d'Amiens) was built from 1220 onwards by Bishop Évrard de Fouilly, in order to replace an older structure. Its construction was rapid, the laying of the central stone of the labyrinth, in 1288, being considered to mark the completion of the building work. Although its Gothic art, which remains traditional, shows various influences, it nevertheless possesses great artistic unity. In the history of the development of Gothic architecture, Amiens Cathedral is a major building, within Picardy and within Western Europe as a whole.

## ■ Construction

The cathedral was built during a period of economic prosperity for Amiens. Begun in 1220, it was conducted by three successive architects. The plans for the edifice, with the exception of the chevet, are probably the work of Robert de Luzarches. He built the sides of the nave including the vaulting as well as the porches of the western façade. Thomas de Cormont continued the work, building the ambulatory, flanked by numerous chapels, and the upper parts of the nave, which he vaulted. His son, Renaud de Cormont, proved to have a different style. This architect built the superstructures of the chancel and apse and threw up the vaults of the transept crossing at a height of 42 metres. In spite of a fire, which occurred in 1258, the building was completed rapidly. In 1269, at the time of the laying of the central stained glass in the chancel, the structure of the edifice had almost reached completion. Subsequently, from 1290 to 1375, the lateral walls of the aisles of the nave were flanked, between the buttresses, with chapels. For their part, the western façade's two towers were built between 1365 and 1402. Destroyed by lightning in 1528, the spire was rebuilt in the form in which it can still be seen to this day, with a height of 112.70 metres. >>

Length of the cathedral from east to west.	145 metres
Width of the transept	70 metres
Width of the nave (including side aisles and chapels)	40 metres
Height under the vault	42.30 metres
Surface area	7,700 m <sup>2</sup>



### ■ Interior

- The funerary monuments consist of 2 bronze recumbent effigies (13<sup>th</sup> century)
- The chancel screen: sculpted stone panels (1490–1531)
- The 15<sup>th</sup> and 16<sup>th</sup> century organ cases.
- The stalls (1508–1519)
- The Glory of the master altar (1768) and the preacher's pulpit (1773)

### ■ The plan

The plan is harmonious. The nave of seven bays was originally flanked with simple aisles. The salient transept, with its long arms of three bays, which also possess aisles, precedes the shrine. An apse in seven sections continues the latter, beyond four right-hand bays. The shrine's internal aisles are connected by an ambulatory, whilst the seven transversal chapels correspond to the exterior side aisles.

### ■ The restorations

**1810-1847** : Grandclas, Gode and Cheussey succeeded each other on the work site; the façade's sculptures were then restored by the Duthoit brothers.

**1849-1874** : Viollet-le-Duc directed the first major restoration programme.

**1914-1918**

**1939-1945** : The two World Wars spared the cathedral.

**1973** : Second restoration programme, spire, flanking chapels, and furnishings.

**1981** : The UNESCO listed the cathedral as a World Heritage Site.

**1992-1999** : Restoration of the western façade. Laser cleaning is tested on the Mère-Dieu porch. During this programme, the three portals revealed exceptionally valuable vestiges of polychromy, re-created every evening by means of light, for the "Amiens, la cathédrale en couleurs" show.

**2000-2009** : Restoration of the façades of the western towers and the northern façade of the nave and complete restoration of the southern part of the transepts and their portal (portal of the Golden Virgin).

**2010** : Restoration of all of the remaining exterior façades continues at the level of the northern arm of the transept.





# The three portals of the western façade of Amiens Cathedral

Exceptional statues

**At the end of the 12<sup>th</sup> century, medieval sculpture began to reflect the decorative aesthetics of curves and counter-curves whose influence was spreading outwards from Senlis. Once again, sculpture regained a dominant place in architecture. It underlines the architectural structure and covers large areas, in particular on façades. This change was then taking place in Laon, Chartres and Paris. However, Amiens is the most spectacular example of this tendency.**

The exceptional intricacy of the monumental sculpture on the western façades allowed a renewal of the iconographic themes, which were beginning to rise to prominence at the beginning of the century. Amiens therefore represents one of the purest expressions of the representation of divine humanity in stone sculpture, typical of the early 13<sup>th</sup> century.

Examining the façade, visitors discover in succession, from right to left (from the south to the north):

## ■ The *Mère-Dieu* portal

The right-hand portal, known as the portal of the Mother of God, is dedicated to the Virgin Mary. The base superimposes two rows of quatrefoils representing stories from the Old Testament as well as the virgin conception of Mary, messianic prophecies and episodes from the New Testament concerning the childhood of Christ and of John the Baptist.

The splayed apertures feature a composition of monumental statues, of which the various groups represent the Annunciation, the Visitation, the Presentation of Jesus at the temple, the Visit of the Queen of Sheba to King Solomon and the Visits of the Magi to Herod and to the Virgin.

In the corners are placed two of the Minor Prophets, part of a series containing the twelve Minor Prophets, which continues along the length of the façade. The Virgin stands in the centre, on the pillar. On the base, Adam and Eve are represented in scenes from Genesis concerning Original Sin, which the coming of Mary "brought to an end".

Above the lintel upon which six Old Testament Patriarchs are seated, the Tympanum represents the Dormition, the Assumption, and the Coronation of the Virgin, on two superimposed levels.

The three arched bands are adorned with angels and the ancestors of the Virgin, including the Kings of Judah. >>

### ■ The *Beau Dieu* Portal

The central portal, known as the Beau-Dieu portal, is dedicated to the Saviour.

The base superimposes two rows of quatrefoils showing the vices and the virtues.

The splayed apertures bear an exceptional combination of twelve monumental statues, the Apostles, whereas the Major Prophets are positioned on the internal surface of the buttresses.

In the corners, two of the façade's Minor Prophets are perched in a sloping fashion.

The pillar of Beau Dieu of Amiens is placed at the same level.

The tympanum carries a large Last Judgement, on four superimposed levels: the Resurrection, the separation of the Blessed and the Damned, the Sovereign Judge and the appearance of the Son of Man in the clouds.

For their part, the arches and ribs of the portal bear an impressive procession of figures, sovereigns and angels.



### ■ The portal of saint Fermin

The left-hand portal is dedicated to saint Fermin, considered to be the first bishop of Amiens.

The base superimposes two rows of quatrefoils where the signs of the Zodiac are represented, along with the activities of the corresponding months.

In the splayed apertures two groups of six statues appear, that is to say twelve characters, amongst whom, according to tradition, are found the region's male and female saints, whose relics were preserved in the cathedral. The corners contain another two of the twelve Minor Prophets.

On the pillar stands the statue of saint Fermin, represented as a bishop bestowing benediction. Above the lintel, on which six bishops are seated, the tympanum narrates the movement of the relics of saint Fermin, which were brought from the site of the church of Saint-Acheul to the cathedral.

The portal's arches and ribs bear a procession of angels.



### ■ Analysis of the three portals' iconographic themes.

The iconographic themes of the western façade of Amiens Cathedral, which was begun in 1236, show such perfect coherence (and even complexity) that most art historians do not hesitate to consider that it represents the work of a theologian or of a learned member of the clergy, whose project was followed by the artists. The programmatic scale of the themes, and the probable dispersion of the creation of the sculptures over a period of time, mean that the statues are probably the work of several different sculptors of differing origins. Nevertheless, great homogeneity is evident, undoubtedly due to the constraints linked to scrupulous fidelity to the themes imposed.

It is visible that the three portals must have been placed under the authority of their own respective architects and teams of sculptors. The architect of the "Beau Dieu" portal expresses his style, both by means of his masterpiece placed on the pillar, and at the level of the apostles, through his ability to free the structural form from the rigidity of the columns, in front of which they are positioned. The architect of the Mother of God or "Mère-Dieu" portal imposes himself by means of a great simplification of faces and forms, whereas the architect of the saint Fermin portal shows a less strongly marked individuality, while however remaining faithful to the stylistic school that was established at Paris and echoed at Amiens. A similar testimony was left, in the following decade, by the Gallery of Kings.

The metropolitan area of Amiens, the capital of Picardy, is a true dynamic hub at the heart of North-Western Europe (between Paris, London and Brussels), combining the advantages of proximity and distance.

## ■ Getting to the show

### By car:

Amiens, 1 hour and 15 minutes away from Paris by motorway, is situated at the intersection of:

- The A16, which connects Amiens to the Île-de-France and to the North Sea ports, which link the capital of Picardy to Great Britain, via the Channel Tunnel since 1998.

- The A29, which now provides the connection to Normandy (Rouen and Le Havre) and the East of France (Reims).

- The A1, which, via a section of the A29, provides an effective link to the East of the Île-de-France region.

### By train:

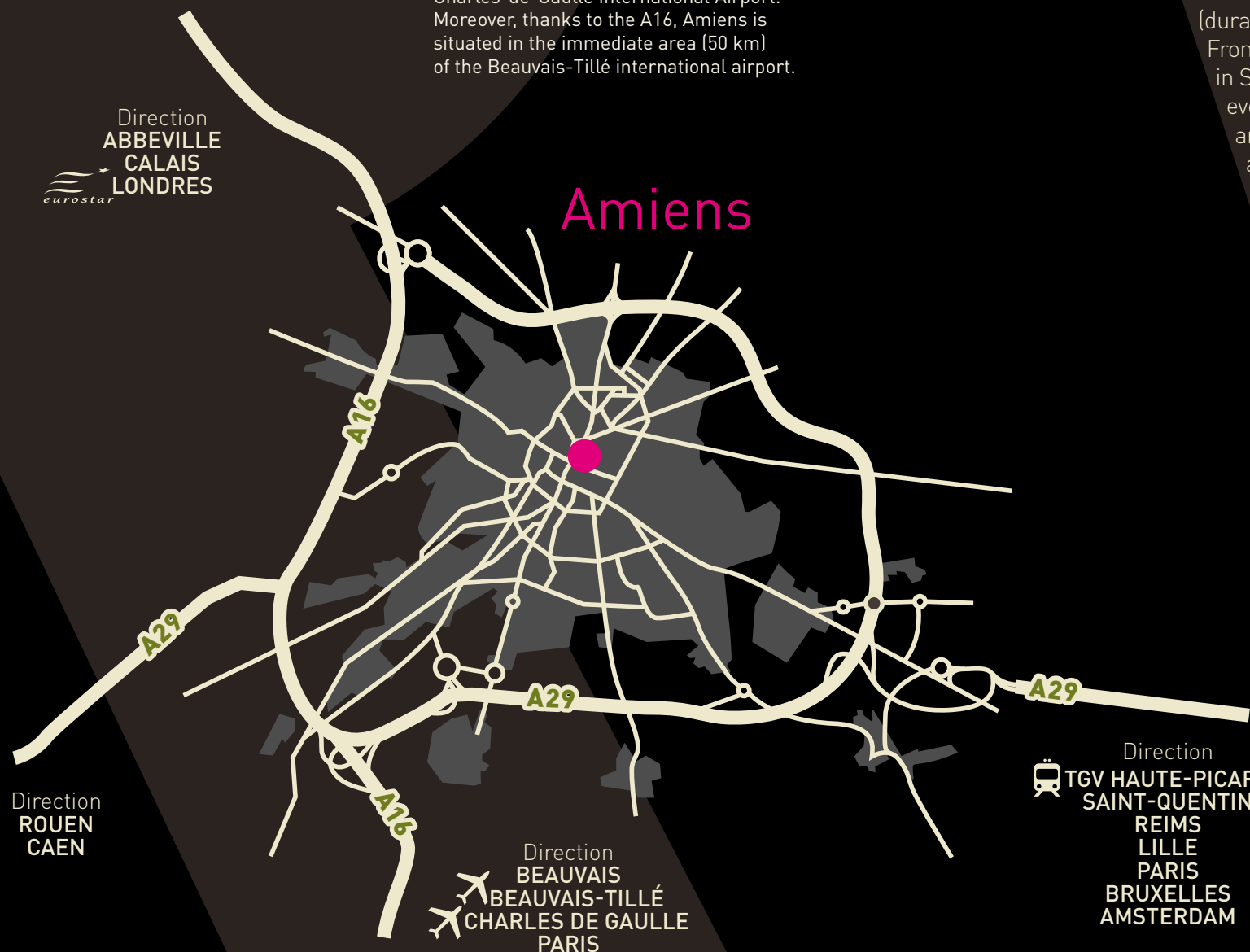
Amiens is situated at 1 hour from Paris (more than 20 return journeys daily).

Amiens has the advantages offered by the proximity of a TGV high-speed train service and of the TGV Haute-Picardie railway station.

### By plane:

The Amiens urban area possesses the advantage of its proximity to Paris Roissy Charles-de-Gaulle International Airport. Moreover, thanks to the A16, Amiens is situated in the immediate area (50 km) of the Beauvais-Tillé international airport.

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## Useful information

Amiens < Picardie < France

### “Amiens, la cathédrale en couleurs” Show

(duration 40 minutes)

From 15<sup>th</sup> June to the 3<sup>rd</sup> Sunday in September (heritage days) every evening at nightfall, and from 1<sup>st</sup> December to 1<sup>st</sup> January at 7:00 p.m.

### The Cathedral is open

From 1<sup>st</sup> October to 31<sup>st</sup> March: from 8:30 a.m. to 5:30 p.m.

From 1<sup>st</sup> April to 30<sup>th</sup> September: from 8:30 a.m. to 6:30 p.m.

### Service du Patrimoine et du Tourisme

(“Heritage and Tourism Department”)

- Amiens, Ville d’art et d’histoire (“Amiens, City of Art and History”)

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www.amiens-cathedrale.com

Chambord,  
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Creation: Skertzò for Chambord, Rêve de lumières of Chambord

Le Mans  
La Nuit  
des Chimères



Creation: Skertzò for la Nuit des Chimères of Le Mans

Rouen  
Les Nuits  
impressionnistes



Creation: Skertzò for les Nuits impressionnistes of Rouen

# A network of light shows

**Amiens, la cathédrale en couleurs** is part of the network of light shows embracing the towns of Le Mans and Rouen, and the Château of Chambord.

## Chambord

Chambord, Rêve de lumières

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www.rouen.fr/galerie/138-les-nuits-  
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# Amiens

la cathédrale en couleurs

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- Insert the CD and install the corresponding software application (PC or Mac).

- Once the installation is completed, click on the "Amiens cathedral" icon.

- As soon as your webcam is switched on, place the left-hand visual in front of your webcam, making sure that the whole page appears on the screen and that there is enough light in the room.

Or

- Connect to [www.amiens-cathedrale.com](http://www.amiens-cathedrale.com) at the augmented reality page.

Enjoy your visit!



