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GS 1: ART & CULTURE, HISTORY, INDIAN SOCIETY AND GEOGRAPHY

1. ASI excavations in Ratnagiri spotlights ancient Buddhist site, its SE Asia link

Context: In December, when Archaeological Survey of India tool up excavations at the 5th-13th century Buddhist complex in Ratnagiri, in Odisha's Jaipur district, after a gap of 60 years, their aim was to uncover more of the complex and find material evidence of the state's link to the larger Southeast Asian culture. The mission is partially successful as they have unearthed a colossal Buddha head, a massive palm, an ancient wall and inscribed Buddhist relics, all of which are estimated to date back 8th and 9th century AD. The discoveries are significant, specially given Odisha's historical relationship with Buddhism beginning with Mauryan Emperor Ashoka (304-232 BCE), one of Buddhism's greatest patrons whose invasion of the kingdom of Kalinga (now Odisha) led to his embracement of religion.

- **Overview:** The Archaeological Survey of India (ASI) stumbled upon a 1,300-year-old stupa right in the middle of a Khondalite mining site in Odisha's Jajpur district.
- **About the Stupa:** The stupa could be 4.5-meter tall and initial assessment showed it may belong to the 7th or 8ᵗʰ. It was found at Parabhadi which is situated near Lalitagiri, a major Buddhist complex, having many stupas and monasteries. The newly discovered stupa was possibly disfigured in an earlier period.
- **Lalitagiri Buddhist Complex:** Lalitagiri is a major Buddhist complex in the state of Odisha. The complex is home to stupas, 'esoteric' Buddha images, and monasteries (viharas), which is the oldest site in the region. Significant finds at this complex include Buddha's relics. Tantric Buddhism was practiced at this site. Together with the Ratnagiri and Udayagiri sites a short distance away, Lalitagiri is part of the "Diamond Triangle". It used to be thought that one or all of these were the large Pushpagiri Vihara known from ancient records, but this has now convincingly located at a different site.
- **Stupa Architecture:** In the most basic sense, as an architectural representation of a sacred burial site, a stupa — no matter where it is in the world or when it was built — has three fundamental features-
  - *A hemispherical mound (anda)* - The anda's domed shape (green highlights) recalls a mound of dirt that was used to cover the Buddha's remains. As you might expect, it has a solid core and cannot be entered. Consistent with their symbolic associations, the earliest stupas contained actual relics of the Buddha; the relic chamber, buried deep inside the anda, is called the tabena. Over time, this hemispherical mound has taken on an even grander symbolic association: the mountain home of the gods at the centre of the universe.
  - *A square railing (harmika)* - The harmika (red highlights) is inspired by a square railing or fence that surrounded the mound of dirt, marking it as a sacred burial site.
  - *A central pillar supporting a triple-umbrella form (chattra)* - The chattra, in turn, was derived from umbrellas that were placed over the mound to protect it from the elements (purple highlights). Just as the anda's symbolic value expanded over time, the central pillar that holds the umbrellas has come to represent the pivot of the universe, the axis along which the divine descends from heaven and becomes accessible to humanity.

  Around these three core building blocks were added secondary features-
  - *Enclosure wall with decorated gateways (toranas)* - At the cardinal directions the wall — with its trademark three horizontal stone bars (in the top image) — surrounds the entire structure. The wall is marked in light blue highlights and the toranas in yellow.
  - *A circular terrace (medhi)* - The terrace — surrounded by a similar three-bar railing — supports the anda and raises it off the ground (black highlights); it likely served as a platform for ritual circumambulation.
- **The excavation site:** Located 100km northeast of Bhubneshwar and part of the famous Diamond Triangle of Odisha along with Udaygiri and Lalitgiri, Ratnagiri is translated as the 'Hills of Jewels' and was first documented as a historical site in 1905. The site stands on a hill between Birupa and Brahmani rivers and is Odisha's most famous and most excavated Buddhist site.

2. Prioritizing IMEC is in America's best interest

Context: The United States-India relationship has evolved into an increasingly vital strategic partnership ever since the Clinton administration laid the foundation for a new direction in the 1990s. The India-Middle East-Europe Economic Corridor (IMEC) agreement presents a tremendous opportunity for President Donald Trump to solidify this multilateral partnership while advancing both the strategic interests of the U.S. and India. By leading the effort to secure cooperation among the participating nations, the U.S. can help create a robust economic corridor to ensure free and open trade routes, with enhanced energy security and technological innovation, which, in turn, will also benefit American companies.

Key points

- **Overview:** Announced in 2023, IMEC represents an ambitious vision to forge an integrated network spanning three vital regions through advanced physical and digital infrastructure.
- **IMEC Corridor:** The IMEC Corridor, or the India-Middle East-Europe Economic Corridor, is a proposed infrastructure network aimed at boosting economic links among participating regions. This project spans from India through the Middle East to Europe, involving vital transit and connectivity routes. The project intends to enhance economic cooperation, promote cross-border investments, and facilitate a smoother flow of goods and energy.
- **Route and Participating Countries:** The IMEC (India-Middle East-Europe Economic Corridor) connects India, the Middle East, and Europe via a strategic route that promotes trade, energy, and digital connectivity.
  - *Route and Countries* - The corridor connects key points in India, Middle Eastern countries, and Europe. While the specifics of each port are still evolving, it includes strategic ports and rail networks.
  - *Key Participating Countries* - India, UAE, Saudi Arabia, Jordan, Israel, and European Union countries.
- **Purpose and Objectives of IMEC:** IMEC's main objective is to enhance regional connectivity and provide a reliable, efficient trade route. It seeks to diversify trade routes, reduce transit times, and offer an alternative to routes dominated by other major global powers.
- **Significance of IMEC:** *Alternative to BRI* - IMEC offers a strategic alternative to China's Belt and Road Initiative, promoting transparent partnerships.
  Stronger Ties with the Arabian Peninsula - Solidifies India's relationship with the UAE and Saudi Arabia, fostering long-term connectivity.
  US-India Collaboration - Highlights Indo-US cooperation in Middle East projects, showcasing new alliances.
  Bypassing Pakistan - Establishes a route that avoids reliance on Pakistan for Westward trade access.
  European Involvement - Engages the EU, enhancing India-Arab-Europe connectivity.
  Regional Stability - Encourages peace through economic interconnectivity in the Middle East.
- **IMEC Corridor Map and Strategic Ports:** *India* - Mundra (Gujarat), Kandla (Gujarat), Jawaharlal Nehru Port Trust (Navi Mumbai).
  Middle East - Fujairah, Jebel Ali, Abu Dhabi (UAE), Dammam, Ras Al Khair (Saudi Arabia).
  Railway Line - Links Fujairah (UAE) to Haifa (Israel), passing through Saudi Arabia (Ghuwaifat and Haradh) and Jordan.
  Europe - Piraeus (Greece), Messina (Southern Italy), Marseille (France).

3. States join hands with Centre to present united colours of India at Davos

Context: The World Economic Forum (WEF) is holding its Annual Meeting from January 20 to 24 in Davos, Switzerland. Attendees will include European Commission President Ursula von der Leyen, China's Vice Premier Ding Xuexiang, and other leaders in business and politics. Union Minister Ashwini Vaishnaw will head the Indian delegation. The meeting will be a detailed discussion about inclusive growth, investment in social, physical and digital infrastructure and democratising technology.

Key points

- **Overview:** India stands at the forefront of discussions, demonstrating significant advancements in artificial Intelligence (AI), renewable energy, and industrial development. WEF 2025 theme, "Collaboration for the Intelligent Age".
- **India's Key Areas of Focus at WEF 2025:** *Reimagining Growth* - India's robust economic growth trajectory, supported by policy reforms and increased foreign direct investment (FDI), continues to redefine its economic landscape.
  Investing in People - India's commitment to human capital development is underscored by initiatives in education, skill development, and healthcare, which are pivotal for sustainable growth.
  Rebuilding Trust - With an emphasis on transparency and accountability, India aims to foster a trust-based environment for global partnerships.
  Industries in the Intelligent Age - India is rapidly transforming its industrial sector through cutting-edge technologies such as AI, automation, and digitalization.
  Safeguarding the Planet - India is taking significant steps toward sustainability, focusing on expanding renewable energy capacities and addressing environmental concerns through international collaboration.
- **Sustainability and Trust:** India's policies and actions in renewable energy and environmental conservation will be discussed as part of global efforts to combat climate change.
- **Food Security:** India's role in ensuring food security, particularly through technological advancements in agriculture and food processing.
- **Economic Partnership and Investment:** India's strategic economic initiatives, including infrastructure development and supply chain diversification, will be presented as opportunities for global investment.
- **AI for Process Transformation:** India will contribute insights into the transformative role of AI in various industries, aligning with the WEF 2025 theme.

About WEF

- **About:** It was established in 1971 as a not-for-profit foundation by German engineer and economist Klaus Schwab. It was originally known as the European Management Forum. Its has headquarters in Geneva, Switzerland and offices in New York and San Francisco, Beijing and in Tokyo.
- **Funding:** The WEF is largely funded by its partnering corporations. These are generally global enterprises with annual turnover greater than $5 billion.
- **Reports published by the World Economic Forum:** Global Competitiveness Report, Global Information Technology Report, Global Gender Gap Report, Global Risks Report, Global Travel and Tourism Report, Global Enabling Trade Report.

4. Satellite projects aim to head off future wildfires

Context: As Los Angeles firefighters battle the remaining hotspots more than a week into deadly blazes, scientists and engineers hope the growing availability of satellite data will help in the future. Tech-focused groups are launching new orbiters as space launches get cheaper, while machine learning techniques will sift the torrent of information, fitting it into a wider picture of fire risk in a changing environment. Satellites can detect from space areas that are dry and prone to wildfire outbreaks, actively flaming and smouldering fires, as well as burnt areas and smoke and trace gas emissions. EFA aims to launch four satellites by the end of 2026 at a total cost of $53 million.

Key points

- **Overview:** With the help of satellites in orbit detection and tracking of fires at a cadence allows decisions to be made on the ground. Germany-based OroraTech, which on January 14 launched the first of at least 14 FOREST-3 nanosatellites.
- **Global Impacts of Fire Pollution:** *Death Toll* - A recent study published in The Lancet estimates that globally, landscape fires are responsible for over 1.53 million deaths annually due to air pollution, with the majority occurring in low- and middle-income countries.
  Health Risks - The study highlights that approximately 450,000 deaths each year are linked to cardiovascular diseases and 220,000 to respiratory diseases caused by fine particulate matter (PM2.5) released from these fires.
  Geographical Disparities - The highest mortality rates from fire-related air pollution are found in countries like China, the Democratic Republic of Congo, India, Indonesia, and Nigeria.
- **Impacts in India:** *Annual Deaths* - In India alone, it is estimated that landscape fires contributed to about 2.55 million deaths from respiratory and cardiovascular diseases between 2000 and 2019, averaging over 120,000 deaths per year.
  Seasonal Pollution - During winter months (October to December), northern India experiences severe air quality issues due to agricultural burning combined with cooler temperatures that trap pollutants close to the ground.
  Socio-Economic Factors - The study indicates that deaths caused by wildfires are four times higher in low-income countries compared to high-income nations. Lower socio-economic regions face greater health risks from fire-related air pollution.
- **Government initiatives:** *Forest Protection Division* - Headed by the DIG of Forests, this division oversees forest fire management at the central level.
  Community Involvement - The government encourages active participation in forest fire management through mechanisms like Joint Forest Management Committees (JFMCs) and Eco-Development Committees (EDCs).
- **Way forward:** *Strengthen Community-Based Management* - Enhance capacity building, training, and incentivization for local communities through Joint Forest Management Committees (JFMCs) and Eco-Development Committees (EDCs) to actively prevent and manage wildfires.
  Leverage Technology and Research - Implement advanced monitoring systems like satellite-based fire detection and promote research on fire-resistant vegetation to mitigate the impact of wildfires and associated air pollution.