Science & Technology · GS - III

How can the integration of eSIM technology with digital platforms transform international connectivity and competition in the telecommunications sector?

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 27/11/2026	GS - III	Science & Technology

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Embedded SIM, digital connectivity, telecom interoperability, consumer convenience, international roaming, cybersecurity, regulatory framework, digital inclusion

Model Answer

The integration of eSIM technology into digital platforms represents a shift from physical SIM distribution towards remotely managed mobile connectivity. Travel eSIM services illustrate how digital platforms can simplify access to international mobile data.

Transformative potential

1. **Consumer convenience:** Users can purchase and activate travel data plans digitally without visiting foreign telecom stores or replacing physical SIM cards.
2. **Lower connectivity barriers:** Greater competition among international data providers may improve consumer choice and potentially reduce roaming expenses.
3. **Telecom innovation:** Operators can develop new partnerships with digital platforms, expanding distribution channels and international service offerings.

4. **Digital integration:** eSIM technology supports connected devices, Internet of Things applications and flexible network management.

Emerging concerns

1. **Cybersecurity:** Fraudulent profile downloads, SIM-related account compromise and unauthorised access require robust authentication.
2. **Data privacy:** Digital platforms and telecom operators must ensure secure handling of personal and usage information.
3. **Market concentration:** Dependence on a few large platforms may affect competition and the bargaining position of smaller telecom providers.
4. **Regulatory differences:** International eSIM services must comply with country-specific telecom licensing, identity verification and consumer protection requirements.

Indian context and policy priorities

India can benefit from wider eSIM adoption through stronger telecom infrastructure, secure digital identity verification and transparent consumer safeguards. Regulatory coordination between the Department of Telecommunications and other relevant authorities will be important.

Conclusion

eSIM-enabled services can make international connectivity more accessible and competitive, provided technological convenience is accompanied by security, interoperability and effective regulation.

BECOME IAS
AI POWERED UPSC PREP