Digital India
Power To Empower

सत्यमेव जयते

National Informatics Center

Business, Government, Science –
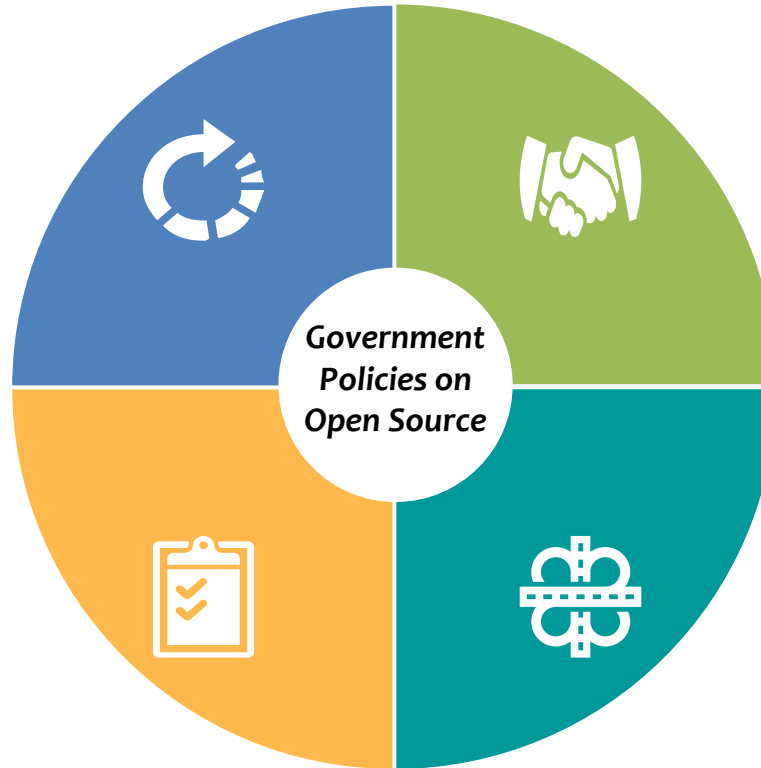# What Opportunities Does "Open" Bring to Society?

6th February 2020

Government Policies on Open Source

Policy on Adoption of Open Source Software for Government of India

Policy On Collaborative Application Development by Opening the Source Code of Government Applications

Government Policies on Open Source

Policy on Open Standards for e-Governance

Policy on Open Application Programming Interfaces (APIs) for Government of India

Policy on Adoption of Open Source Software

Policy on Adoption of Open Source Software for Government of India

Objectives

1. To provide a policy framework for rapid and effective adoption of Open Source Software

2. To ensure strategic control in e-Governance applications and systems from a long term perspective

3. To reduce the total cost of ownership of projects

Applicability

The policy shall be applicable to all Govt. Organizations under the Central Govt. & State Govt. that adopt this policy for following categories:

1. All new e-Governance applications and systems being considered for implementation

2. New versions of the legacy and existing systems

Policy Statement

The Open Source Software shall have the following characteristics:

1. The source code shall be available for the community/ adopter/ end-user to study and modify the software and to redistribute copies of either the original or modified software

2. Source code shall be free from any royalty

Policy on Collaborative Application Development

Policy on Collaborative Application Development by Opening Source Code of Government Applications

Objectives

Policy is designed with the objective of promoting

1. Reuse
2. Standardization and innovation
3. Quality improvement
4. Cost savings through collaboration and avoidance of duplication

Applicability

Applicable to all software applications/ products

1. Whose IPR is held by ant Govt. entity and,
2. Which the concerned Government entity considers suitable for making source code public
3. Developed in-house or through an agency

NOT Applicable which has security implications

Policy Statement

1. Govt. will have full access rights of Custom-built software, any customizations code on COTS, add-on modules/plug-ins and applications rolled out commercially
2. All government applications to be developed will be shared on Collaborative Application Dev Platform
3. The policy doesn't mandate already developed monolithic applications to open their source code
4. The policy doesn't restrict any entity's commercial interest in development or implementation support

Policy on Open APIs

Policy on Open Application Programming Interfaces (APIs) for Government of India

Objectives

1. To ensure APIs are published by all Govt. organizations for all e-Governance applications
2. To enable quick and transparent integration
3. To enable safe and reliable data sharing
4. To promote and expedite innovation
5. To provide guidance to Govt. organizations in developing, publishing and implementation

Applicability

The policy shall be applicable to all Govt. Organizations under the Central Govt. & State Govt. that adopt this policy for following categories:

1. All new e-Governance applications and systems being considered for implementation
2. New versions of the legacy and existing systems

Policy Statement

The Open APIs shall have the following characteristics for publishing and consumption:

1. The relevant information being provided by all Govt. organizations through respective applications
2. All the relevant information and data of e-Governance applications shall be made available by Open APIs
3. All Open APIs to adhere to National Cyber Security Policy, and are stable and scalable
4. Each published API shall be provided free of charge and properly documented (including life cycle)
5. Govt. organizations shall have processes for information handling, authentication and authorization

Experience with Open Source

List of Business Information Systems (LOBIS)

Developed on FOXBASE which was a closed source

Government Orders & Circulars (HP)

Implemented **PDF/A (Open Source)**

2008	2012	2015	NOW

Integrated Software for High Courts (ISHiCo)

Developed on **PHP (Open Source)** and Oracle 9 database.
Implemented **PDF/A** and **XML (Open Source)**

Application Development based on Open Source (Health)

Adoption of Open API and Open Standards in Health

New Applications
1. Beneficiary Identification System (BIS – PMJAY)
2. Central Govt. Health Scheme (CGHS)
3. E-Hospital
4. Online Registration System (ORS)

Open Source Platforms/Tools being used:
Java, PostgreSQL, Tomcat, Linux, Apache, WSO2, Kong, Tuleap

Existing Applications
Reproductive & Child Health (RCH)

Open API
1. CGHS with Open Govt. Data (OGD)
2. e-Hospital with Mera Aspataal, e-Sushrut and e-Raktkosh
3. ORS with UMANG
4. RCH with ANMOL, PFMS and other applications

Open Standards
Adoption of Open Standards (including FHIR) in various e-Health systems

Policy on Open Standards for e-Governance

Policy on Open Standards for e-Governance

Objectives

To provide a framework for selection of Standards to facilitate interoperability between systems developed by multiple agencies.

It provides organizations the flexibility to select different hardware and software for implementing cost-effective e-Governance solutions.

Applicability

1. Interface and data archival level of all systems
2. All prospective e-Governance systems including businesses (G2G, G2B, G2E and G2C)
3. Adherence to Open Standards, in case of legacy and existing systems

Policy Statement

Identified standard will qualify as OPEN STANDARD if it is:

1. Specifically documented and adopted by not-for-profit organization
2. Recursively open as far as possible and technology-neutral
3. Capable of localization support
4. Patent claims necessary to implement the identified Standard available on Royalty-Free basis for lifetime
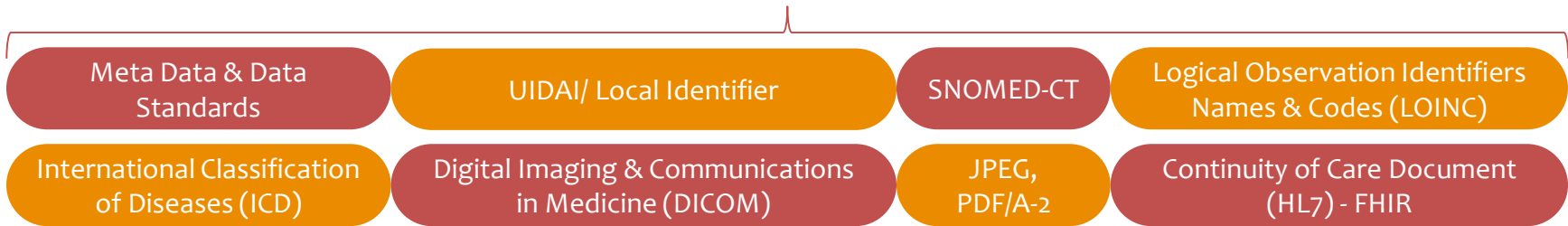
Electronic Health Records (EHR) Standards

35 EHR Standards divided into 21 Categories

Identification & Demographics	Imaging	Data Privacy and Security
Patient Identifiers	Scanned or Captured Records	Information Security Management
Architecture Requirements	Data Exchange	Privilege Management and Access Control
Functional Requirements	Other Relevant Standards	Audit Trail and Logs
Reference Mode & Composition	Discharge Summary	Data Integrity
Terminology	E-Prescription	Data Encryption
Coding System	Personal Healthcare & Medical Device Interface	Digital Certificate

Meta Data & Data Standards	UIDAI/ Local Identifier	SNOMED-CT	Logical Observation Identifiers Names & Codes (LOINC)
International Classification of Diseases (ICD)	Digital Imaging & Communications in Medicine (DICOM)	JPEG, PDF/A-2	Continuity of Care Document (HL7) - FHIR

Inspiring Digital Transformation

The Power of Open Source inspiring Digital Transformation

BUSINESS SENSE

Open source development can avoid licensing fees, eliminate R&D spends, and reduce cycle time, design, implementation and testing costs.

IMPROVED QUALITY

Communities are faster/smarter than individuals. More experts iterating on a product promotes better quality assurance and bring more insights.

NO LOCK-IN PROBLEM

Open source gives the freedom to modify and quickly adapt solutions in response to new market opportunities, thereby avoiding lock-in.

TRANSPARENT

Community shares data and resources

ADAPTIVE

Response to changing conditions

COMMUNITY FOCUSED

Shared purpose and opinions

INCLUSIVE

Collective and collaborative decision making

FAST AND FLEXIBLE

Open source software are low cost, coupled with community's ability to rapidly customize software, endears open source solutions to users.

COLLABORATION

Collaborative R&D is where really drives value. By fostering a sustainable, open community, open source projects enable innovation to flourish.

AFFORDABLE & CUSTOMIZABLE

In open source software, source code is available for customization at reduced cost, and is always supported by an active developer community.

Thank You!