



Electronic Nonclinical Protocol Design for Sharing Between Systems



Webinar Agenda

1

Introduction

2

Protocol Automation Needs

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Solutions

4

Nonclinical Study Design vs Clinical Study Design

5

Collaboration

6

Questions & Answers



Introduction

Meet The Presenters

Presenter



Bob Friedman

Chief Technologist & Chief
Solution Architect



Experience

- Over 30 years of experience in life sciences
- Former employee of the New York State Department of Health, Synthes USA, NYU Medical Center

Membership

- Active member of CDISC SEND standards consortium
- Active member of PhUSE / FDA Industry Collaboration

Education

- Master of Engineering, Biomedical Engineering, Rensselaer Polytechnic Institute
- Bachelor of Engineering, Biomedical Engineering, Rensselaer Polytechnic Institute

Meet The Presenters

Presenter



Nicolas de Saint Jorre

Product Architect
OpenStudyBuilder



Experience

- Over 27 years of experience in Clinical Research, with 23 years in Computer Sciences (with EDC systems)
- Expert in CDISC Models (with specialisation around CDASH, SDTM, ODM, Define and CT)

Membership

- Active member of CDISC Protoco CT team / ODM reviewer
- Active member of DMB
- Active member of the French CDISC User Group

Education

- Computer Engineer Diploma (CNAM)

If you have any question re: OpenStudyBuilder
ndjz@novonordisk.com

Meet the Presenter

Presenter



Paul Auspitz

Director of
Preclinical Solutions and SEND
services
Xybion Digital
Pauspitz@xybion.com

- **Experience**

- Graduate of Thomas Jefferson University with a BS degree in Finance and IT Systems Management. 25-year track record of success as a trusted digital solution expert and advisor to business leaders in highly regulated research driven organizations.
- Currently serving as Director of Preclinical Solutions and SEND services for Xybion Digital. Before his current role at Xybion Paul spent 5 years in a similar role with Instem, Plc. Additional noteworthy experience includes SAP EWM, SCM, and serialization consulting, MS 365 Business and Operations solution sales
- years of successfully helping organizations address and manage SEND across preclinical R&D business's with Instem and Xybion.

- **Education**

- BS Finance and Management Information Systems

Xybion Corporation: Value Creator for 40+ Years



Established worldwide

- Founded in 1977
- 170+ Customers
- Clients in 25 countries
- Work with almost all top 25 pharma companies worldwide
- Headquartered in Princeton, NJ
- US Patent in 2021 on predicting compliance risks
- Xybion Digital Inc., Listed in 2021 at Toronto Venture Exchange

Stock: XYBN Exchange: TSXV Sector: Healthcare Industry: Healthcare Providers & Services
Xybion Digital Inc.



European Operations

- **Incorporating Xybion GmbH**
 - European Business from Germany
 - Clients: Germany, Switzerland, France, Italy, Denmark, UK, Croatia,....
 - Services and Consulting (SEND, CSV, Tx) , Work visa for Germany
- **Localization**
 - Language support
 - Hosting / Cloud
- **Partnerships**
 - R&D Institutes and Universities
 - System Integrators (TCS, Atos, Cognizant, WEGA...)



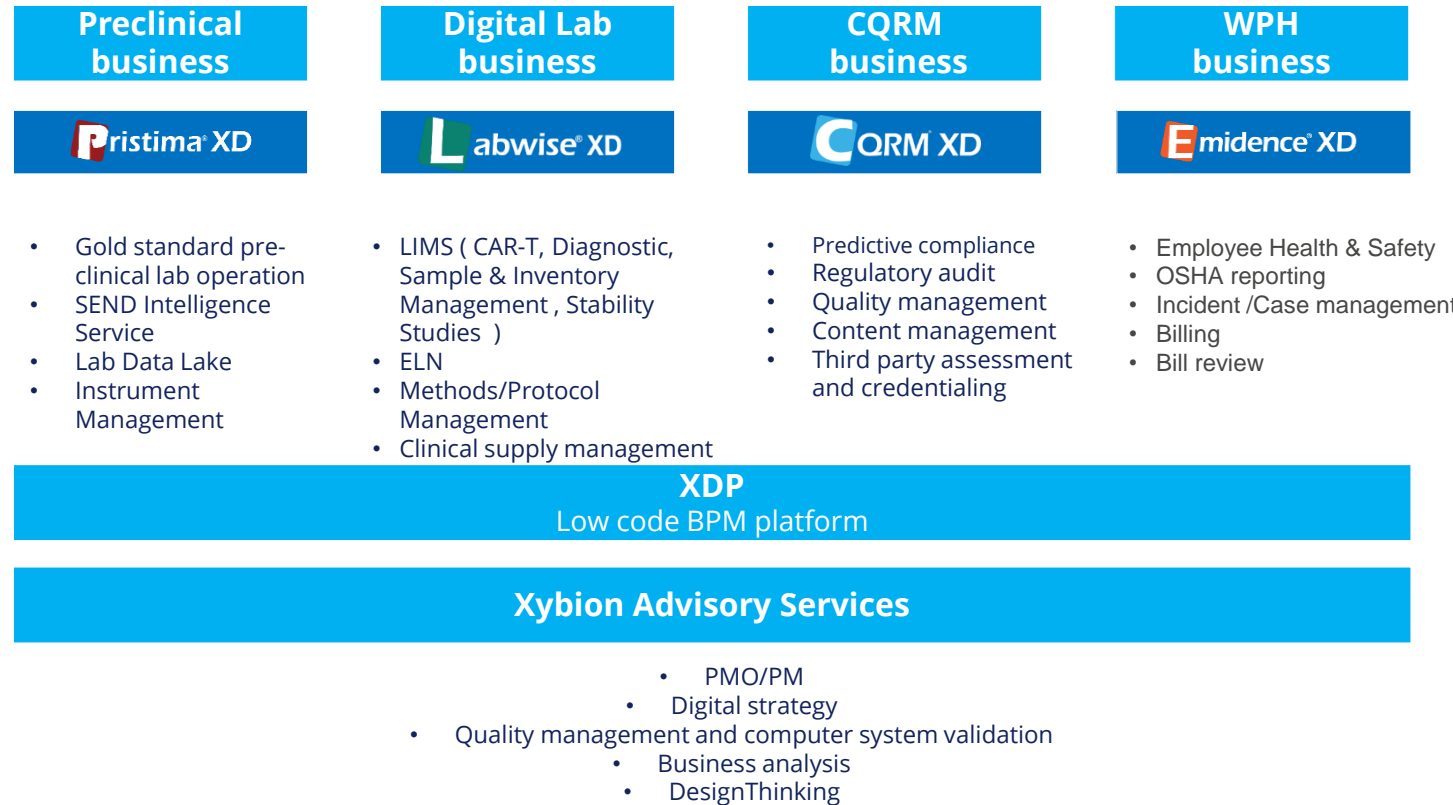
Clients



Boehringer Ingelheim, Bayer, Novo Nordisk, ERBC,....

#Digitization
#Cloud Platform
#Artificial Intelligence & Prediction
#SaaS

Business Segments & Products



Xybion SEND Service Suite



2

2 b. SEND Services

S. NO	SEND Services	Data file formats	Timeline	Deliverables
1	Full Conversion	PDF, Scanned reports, images & word documents etc.,	3-4 wks for 14-28d tox study 4-6 wks for 90d tox study 6-8 wks for 180d tox study	Submission ready SEND datasets, define file & nSDRG
		Excel, CSV & XPT	1-2 wks reduced from the above timelines	
2	SEND Data Verification + Correction	SEND data in xpt or Excel or CSV formats	3-4 wks for 14-28d tox study 4-6 wks for 90d tox study 6-8 wks for 180d tox study	Error fixed, submission ready SEND datasets, define file & nSDRG
3	SEND Data Verification Only (No error fixes)	SEND data in xpt or Excel or CSV formats	3-4 wks for 14-28d tox study 4-6 wks for 90d tox study 6-8 wks for 180d tox study	QC issue log with the list of issues / findings identified.. The Sponsor will be taking care of the error fixes, not Xybion
4	Customized SEND services	Simplified TS preparation	To be determined based on the number of studies	Submission ready TS domain
		Creation of Trial domains	To be determined based on the number of studies	Submission ready trial domain
		Creation of SEND datasets for TK studies alone	To be determined based on the number of studies	Submission ready PC, PP domains with or without Trial domains, based on customer requirements
5	SEND Education	NA	5 - 10 days	Onsite / online training by Xybion SME - Xybion training certificate - Training (course) materials
6	SEND Consultancy	NA	TO be determined based on the customer needs	End-to-end SEND consultancy services

Protocol Design Automation needs

- Ensure a higher degree of end-to-end consistency
- Have built-in compliance with external and internal standards
- Facilitate more automation and content reuse
- Share electronically the nonclinical protocol / study
- Between Pharma's and CROs
- To regulatory bodies
- Do so in a manner that is
- Computer readable for system to system exchange
- Human readable to turn into approval formal protocol
- Amendments must be evident

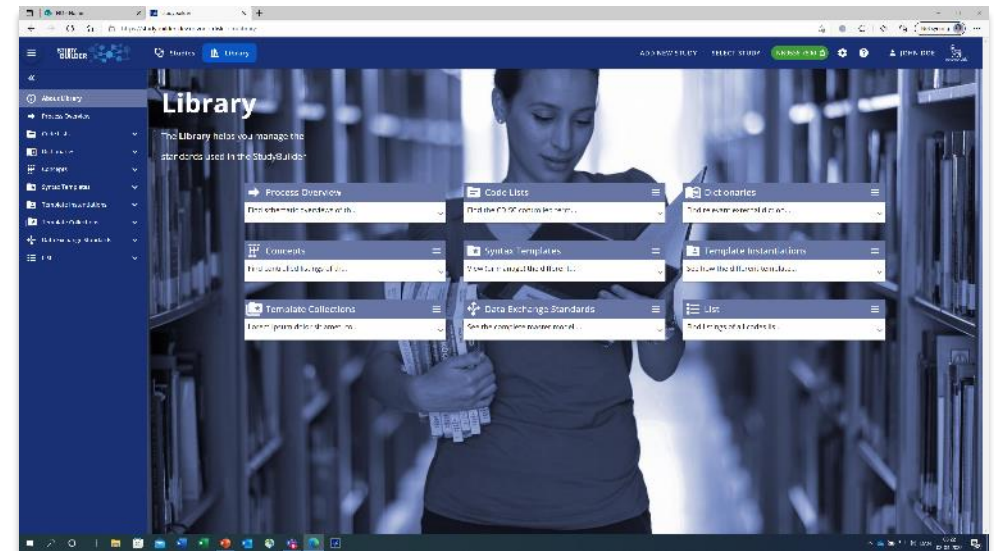
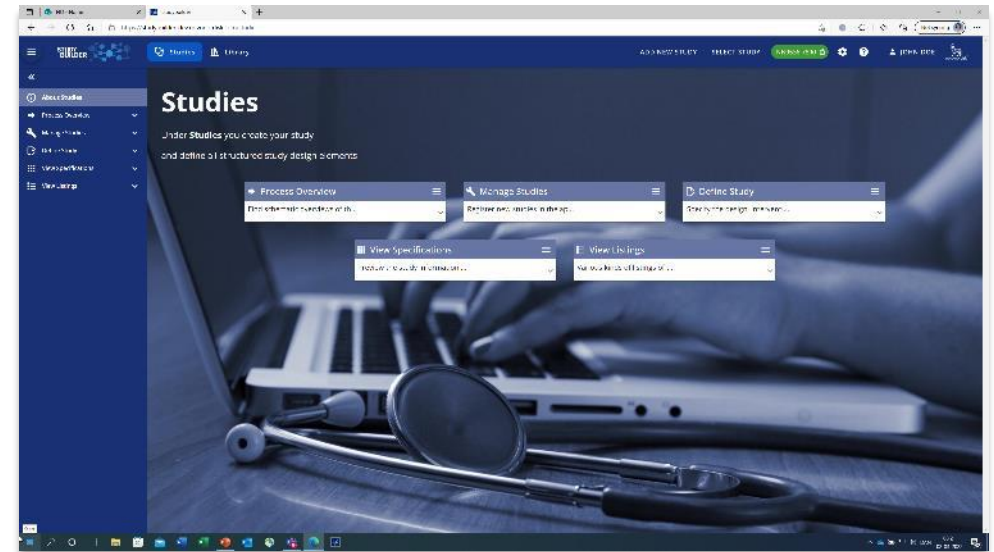
What is the OpenStudyBuilder

- OpenStudyBuilder is an open source solution provided by Novo Nordisk® which is looking for collaborations.
- The OpenStudyBuilder comprises three elements:
- Clinical Metadata Repository (MDR) and Study Definition Repository (SDR) (central repository for all study specification data)
- OpenStudyBuilder application (web-based user interface)
- API layer (allowing interoperability with other applications) (DDF API Adaptor – enabling DDF SDR Compatibility)



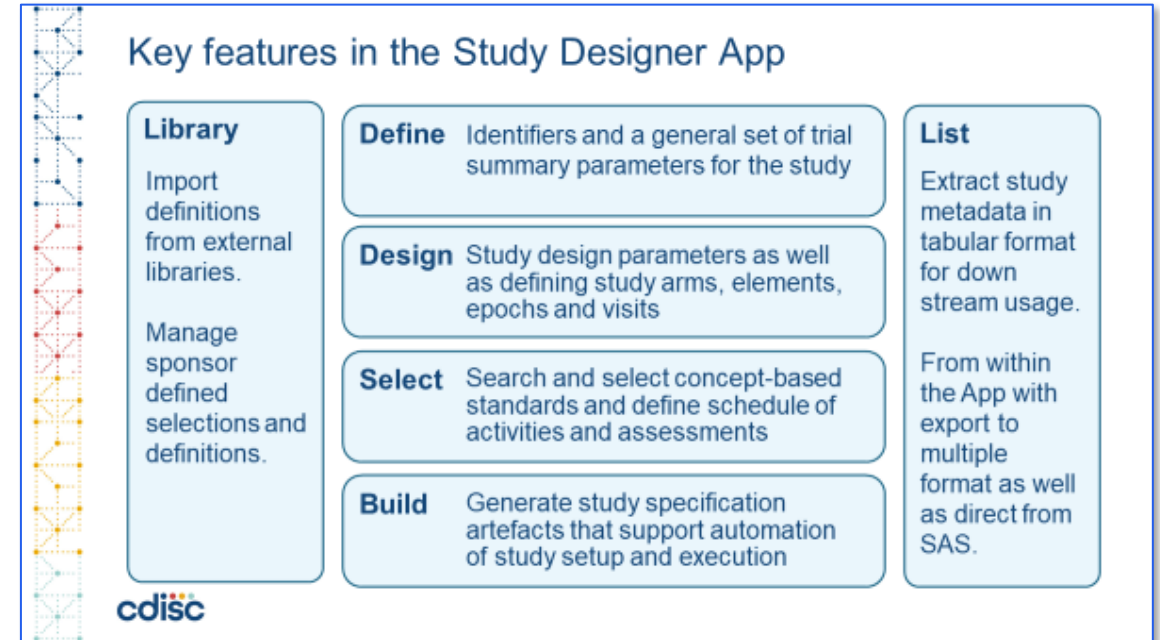
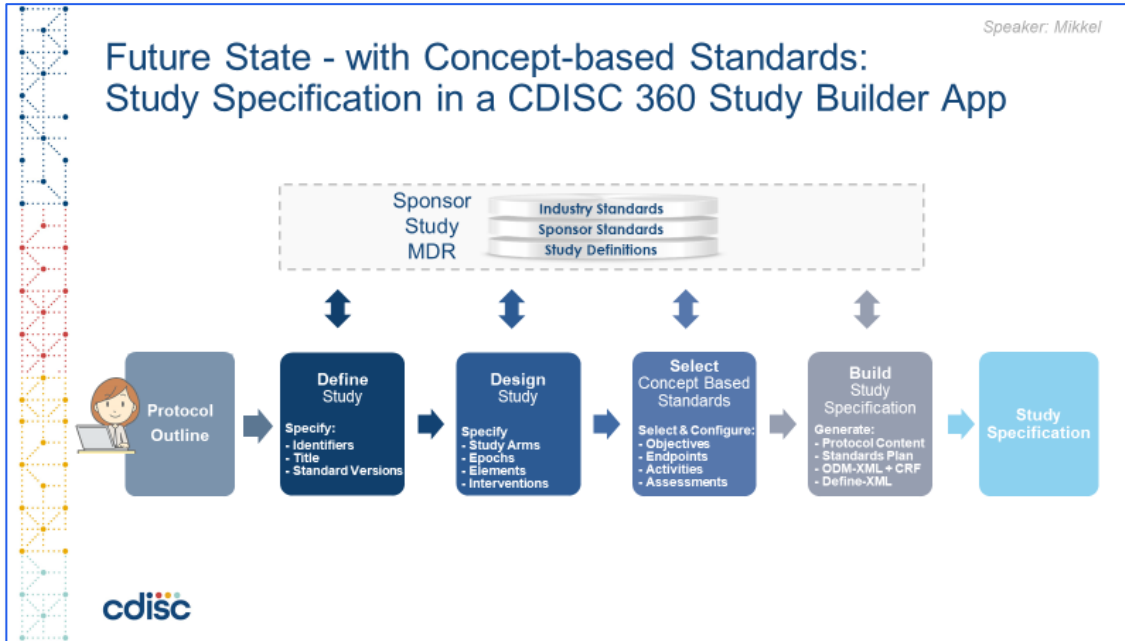
The OpenStudyBuilder includes:

- A **Studies** part for specification of studies (incl. disease area and study type, objectives and endpoints, population and eligibility criteria, study compounds and other interventions, study design, arms and visits, schedule of activities and associated procedure and assessment instructions)
- A **Library** part for maintenance of terminology standards (incl. CDISC controlled terminology, relevant parts of external dictionaries for medical terms, pharmacological classes, units, a detailed compound library, a granulated library of activity terms) as well as syntax templates for cross-study and cross-project harmonisation)
- An underlying **knowledge database** (enabling complex queries and visualisations for aggregation of information and showing how things are connected end-to-end)



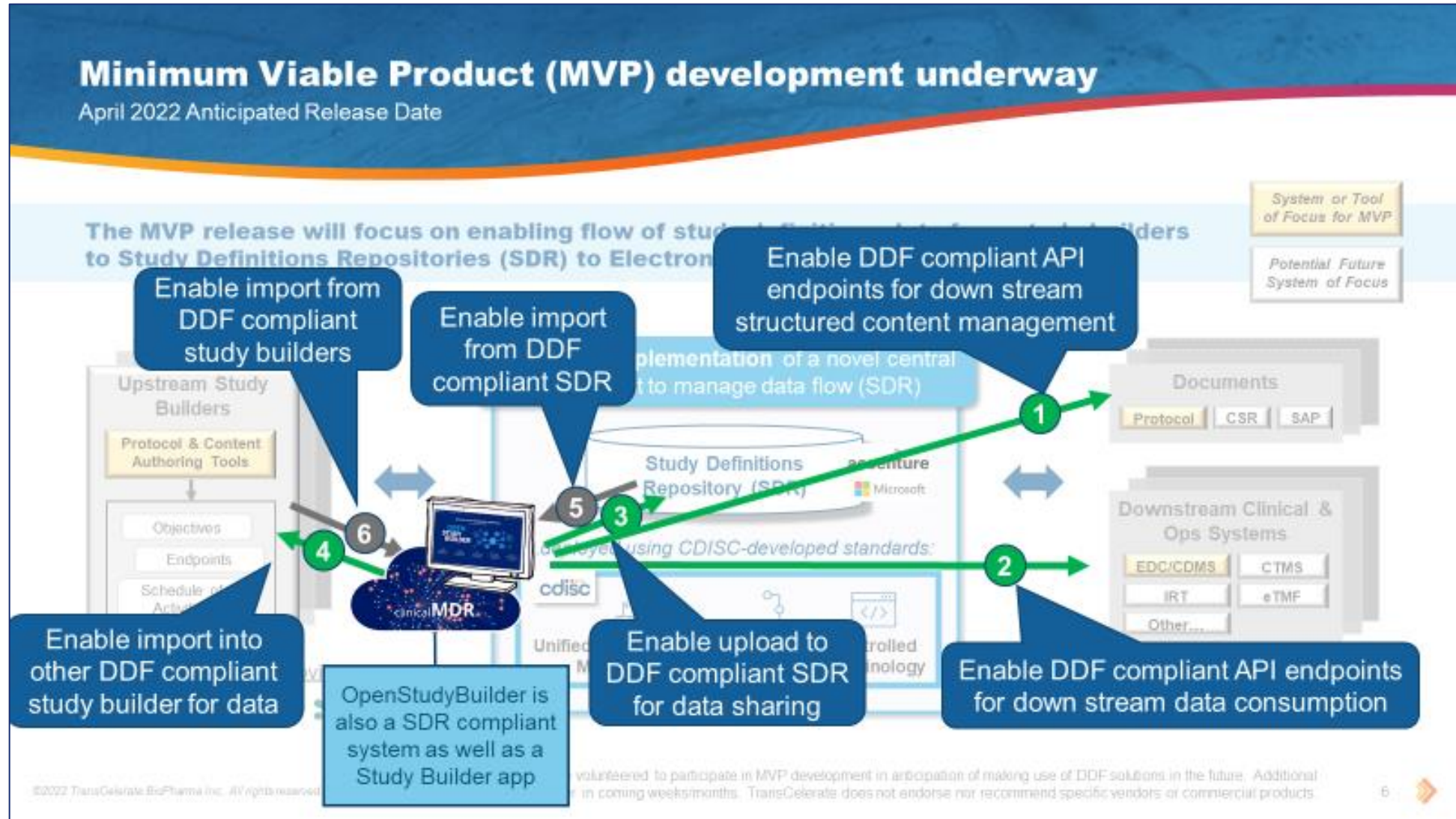
OpenStudyBuilder is being built as an open-source MDR and SDR solution based on the CDISC 360 POC

Project collaborates with CDISC, TransCelerate DDF and suppliers



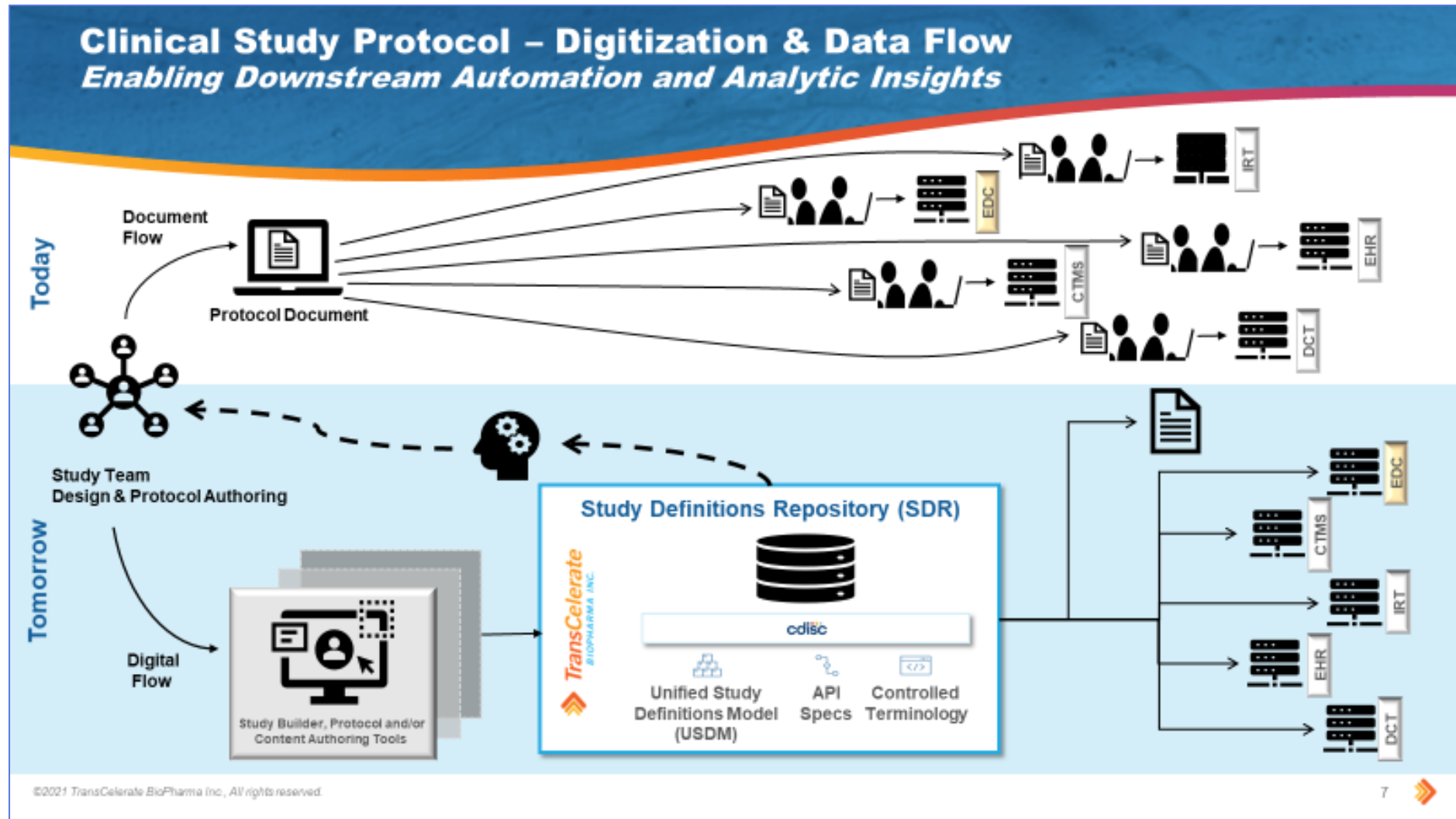
<https://www.cdisc.org/cdisc-360>

OpenStudyBuilder will also be DDF Compatible



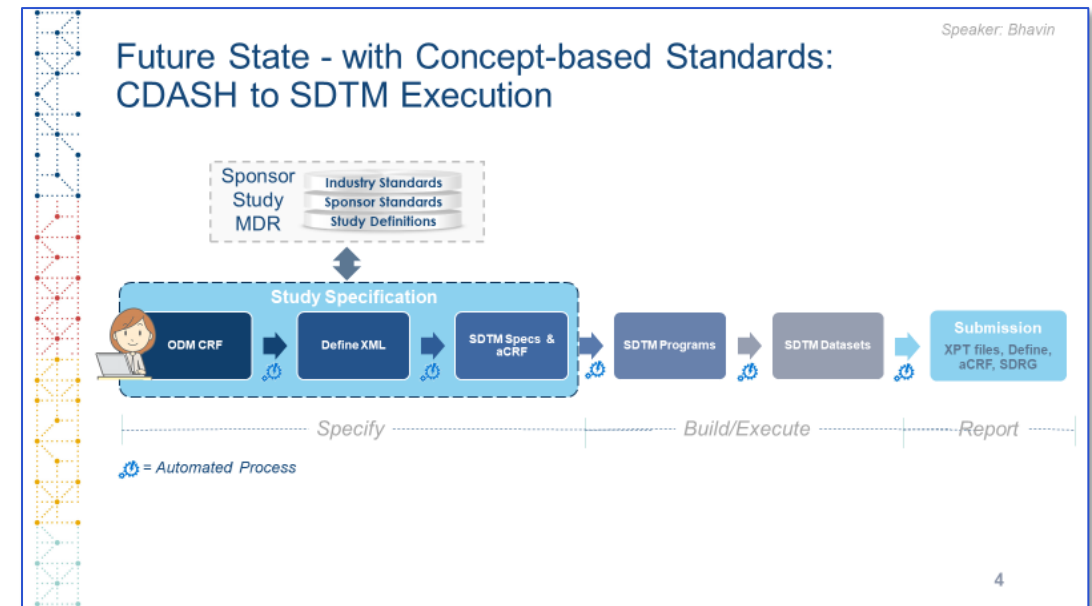
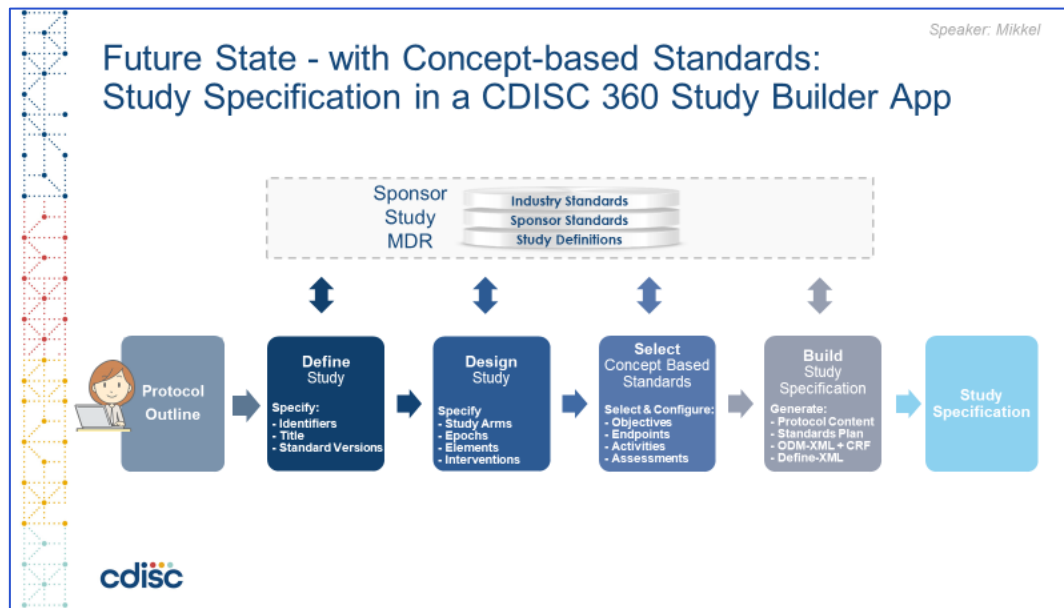
<https://transcelerate.github.io/ddf-home/>

DDF is moving away from Document focused processes to Connected Data Driven processes



To apply concept-based data standards end-to-end

From protocol preparation through study conduct to reporting and submission of applications to health authorities and with reference to externally-compliant concept-based data standards and terminology



Shared as open source project in Q3 2022

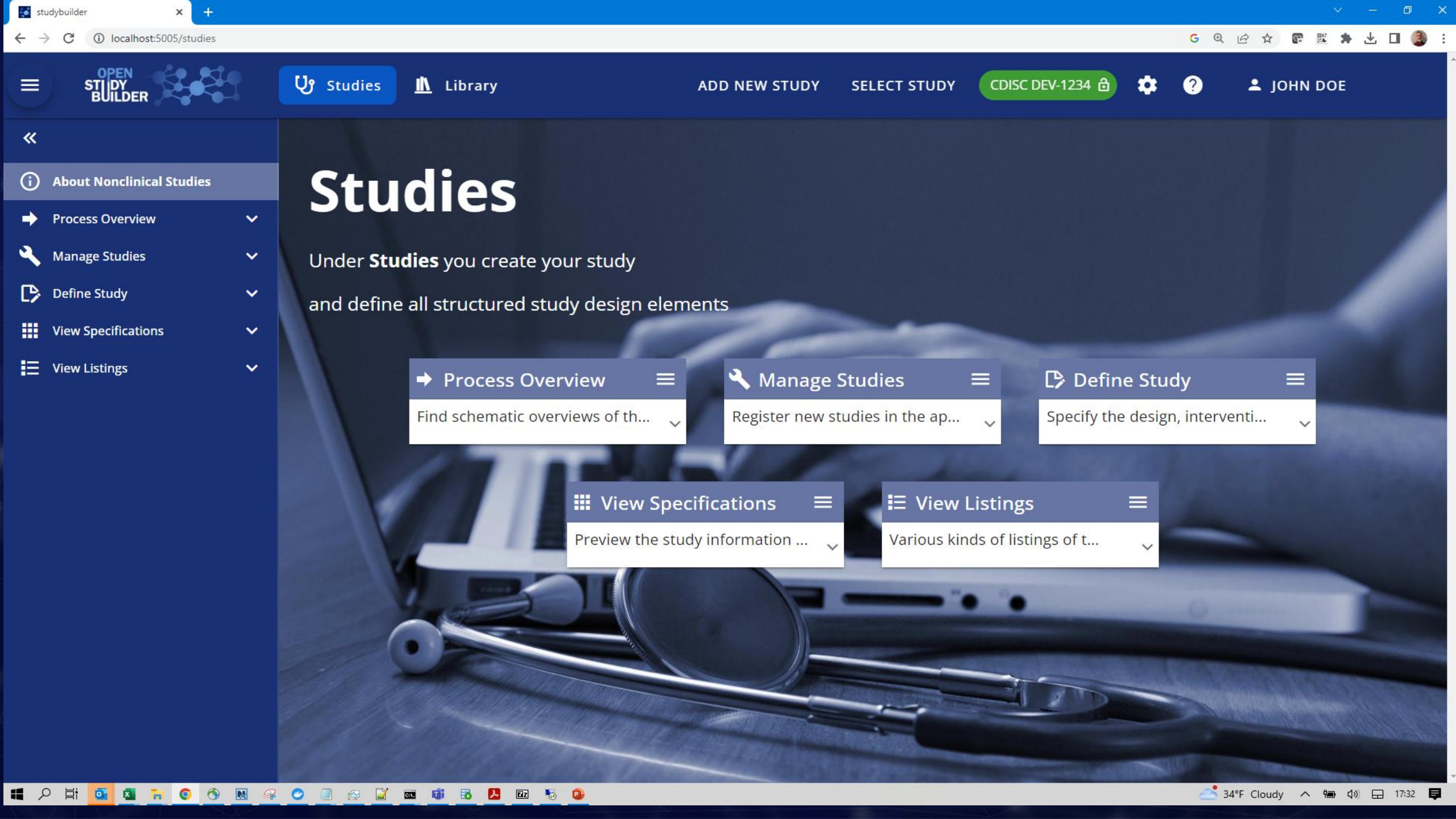
<https://novo-nordisk.gitlab.io/nn-public/openstudybuilder/project-description/>

Listed in COSA (CDISC Open Source Alliance)

<https://cosa.cdisc.org/directory/openStudyBuilder>

Seek to actively collaborate with CDISC, TransCelerate DDF, peers and vendors

OpenStudyBuilder for Non clinical usage



- About Nonclinical Studies
- Process Overview
- Manage Studies
- Define Study
- View Specifications
- View Listings

Studies

Under **Studies** you create your study and define all structured study design elements

Process Overview

Find schematic overviews of th...

Manage Studies

Register new studies in the ap...

Define Study

Specify the design, interventi...

View Specifications

Preview the study information ...

View Listings

Various kinds of listings of t...

- About Nonclinical Studies
- Process Overview
- Manage Studies
- Study List**
- Study Status
- Project Standards
- Define Study
- View Specifications
- View Listings

Studies / Manage Studies / Study List

Study List

Select rows

Search

	Clinical Programme	Project ID	Project name	Brand name	Study number	Study ID	Study acronym
⋮	CDISC Development programme	CDISC DEV	CDISC Dev		0	CDISC DEV-0	CDISC360-2
⋮	CDISC Development programme	CDISC DEV	CDISC Dev		1234	CDISC DEV-1234	Study-1

- Process Overview
- Manage Studies
- Study List
- Study Status
- Project Standards
- Define Study
 - Specification Overview
 - Study Title
 - Registry Identifiers
 - Study Properties
 - Study Structure
 - Study Population
 - Study Criteria
 - Study Interventions
 - Study Purpose
 - Study Activities
 - Terminology

Studies / Manage Studies / Study List

Study List

Select rows

Search

	Clinical Programme	Project ID	Project name	Brand name	Study number	Study ID	Study acronym
⋮	CDISC Development programme	CDISC DEV	CDISC Dev		0	CDISC DEV-0	CDISC360-2
⋮	CDISC Development programme	CDISC DEV	CDISC Dev		1234	CDISC DEV-1234	Study-1

Rows per page: 10 1-2 of 2

Add or edit study type information ?

Study type

Toxicology: Local Tolerance

- ADME Study
- Analytical Methods and Validation Reports
- Bioavailability Study
- Cardiovascular Pharmacology
- Central Nervous System Pharmacology
- Challenge Agent Treatment Efficacy Study
- Efficacy Study With Post-Exposure Prophylaxis

Study stop rules NONE

Confirmed response minimum duration _____ Unit NA

Post authorization safety study indicator

- About Nonclinical Studies
- Process Overview
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- Registry Identifiers
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- Study Population**
- Study Criteria
- Study Interventions
- Study Purpose
- Study Activities
- Terminology
- View Specifications
- View Listings

Studies / Define Study / Study Population

Study Population (CDISC DEV-1234)

Select rows



Study population information	Selected values	Reason for missing
Species		
Strain		
Age range of animals		
Number of Males		
Number of Females		

Rows per page: 15 1-5 of 5

Add or edit study animal information ?

Species

- Cat
- Chicken
- Chimpanzee
- Chinchilla
- Cow
- Dog
- Fish

CANCEL SAVE

- Code Lists
- Dashboard
- CT Catalogues
- CT Packages
- CDISC
- Sponsor
- Dictionaries
- Concepts
- Syntax Templates
- Template Instantiations
- Template Collections
- Data Exchange Standards
- List

Library / Code Lists / CT Catalogues / SEND CT

CT Catalogues ?

All ADAM CT CDASH CT DEFINE-XML CT SDTM CT SEND CT

Select rows

+ Filter List Download

Search

	Library	Sponsor preferred name	Template parameter	Code list status	Name modified	Concept ID
⋮	CDISC	SEND Domain Abbreviation	No	Final	Mar 3, 2023, 11:10 AM	C111113
⋮	CDISC	Chronicity	No	Final	Mar 3, 2023, 11:11 AM	C120529
⋮	CDISC	Distribution	No	Final	Mar 3, 2023, 11:12 AM	C120530
⋮	CDISC	Non-Neoplastic Finding Type	No	Final	Mar 3, 2023, 11:11 AM	C120531
⋮	CDISC	SEND Cardiovascular Test Code	No	Final	Mar 3, 2023, 11:10 AM	C120532

- About Library
- Process Overview
- Code Lists
- Dictionaries
- Concepts
- Activities
- Units
- CRFs
- Compounds
- Syntax Templates
- Template Instantiations
- Template Collections
- Data Exchange Standards
- List

Library / Concepts / Activities

Activity group

name	Abbreviation	Modified
		Feb 28, 2024 6:14 PM
ons - gi		Feb 28, 2024 6:08 PM
ons - other		Feb 28, 2024 6:08 PM
ons - renal		Feb 28, 2024 6:08 PM
Additional Data	Complications - Renal Failure	failure
Sponsor	AE Requiring	Pancreatitis
	Acute	acute complications -

Add activity ?

Library

Sponsor

Activity group

- Laboratory Assessments
- General
- Event Adjudication
- Clinical Outcome Assessments
- In-life measurements
- Necropsy
- Pathology

CANCEL SAVE

Study Activities (Ep1-1001)

[List of Study Activities](#) |
 [Detailed Flowchart](#) |
 [Protocol Flowchart](#) |
 [Activity Instructions](#)

Protocol Flowchart

[DOWNLOAD DOCX](#)

Study epoch	Screening	Treatment	Elimination
Visit short name	V1	V2	V3
Study day	-10	1	29
Visit window (days)	±0	±0	±0
INLIFE			
Inlife measurements			
Body weights	X	X	X
Clinical Observations	X	X	X
Blood collection	X	X	X
Direct dosing	X	X	
Food consumption	X	X	X
Laboratory Assessments			
Haematology	X	X	X
NECROPSY			
Necropsy measurements			
Organ weights		X	X
Gross observations		X	X
Tissue collection		X	X
PATHOLOGY			
Pathology measurements			
Histopathology Slide reading		X	X

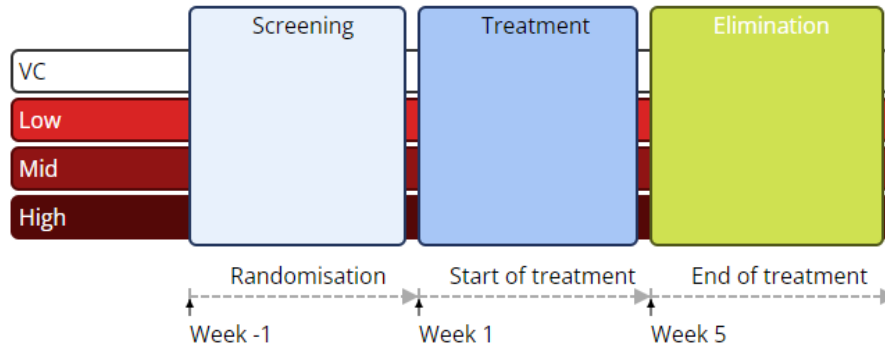


Protocol Elements (Ep1-1001) ?







Title Page Flowchart Objectives and Endpoints **Study Design** Study Population Study Interventions Study Activities

Study Design

DOWNLOAD





-  About Studies
-  Process Overview ▼
-  Manage Studies ▼
-  Define Study ▼
-  View Specifications ▲
- Standardisation Plan
- Protocol Elements
- CRF Specifications
- Study Disclosure
- Trial Supplies Specifications
- ODM Specification
- CTR ODM XML
- SDTM Specifications
- SDTM Study Design Datasets**
- ADaM Specification
-  View Listings ▼

Studies / View Specifications / SDTM Study Design Datasets

SDTM Study Design Datasets

Trial Arm Trial Elements Trial Visits Trial Inclusion/Exclusion Criteria Trial Disease Assessments Trial Summary

Select rows

Column labels Column names



Filtering currently not activated

Study Identifier	Domain Abbreviation	Sequence Number	Group ID	Trial Summary Parameter Short Name	Trial Summary Parameter	Parameter Value
Ep1-1001	TS			NARMS	Planned Number of Arms	1
Ep1-1001	TS			PCLAS	Pharmacologic Class	Insulin
Ep1-1001	TS			STOPRULE	Study Stop Rules	LD 50 achieved
Ep1-1001	TS			STYPE	Study Type	SINGLE DOSE TOXICITY
Ep1-1001	TS			TITLE	Trial Title	Rat toxicology study to test dose responses to treatment XybABC
Ep1-1001	TS			TPHASE	Trial Phase Classification	NOT APPLICABLE
Ep1-1001	TS			TRT	Investigational Therapy or Treatment	INSULIN HUMAN
Ep1-1001	TS			TTYPE	Trial Type	SAFETY

Automation Opportunities

Getting Data

- All data accessible through APIs
 - Tools can be automated

Studies		^
GET	<code>/studies</code> Returns all studies in their latest/newest version.	∨
GET	<code>/studies/{uid}</code> Returns the current state of a specific study definition identified by 'uid'.	∨
GET	<code>/studies/{uid}/protocol-title</code> Retrieve all information related to Protocol Title	∨
GET	<code>/studies/{study_uid}/design.svg</code> Builds and returns a Study Design visualization image in SVG format	∨
GET	<code>/studies/{uid}/flowchart</code> Returns Study Protocol Flowchart table	∨
GET	<code>/studies/{uid}/flowchart.html</code> Builds and returns an HTML document with Study Protocol Flowchart table	∨
GET	<code>/studies/{uid}/flowchart.docx</code> Builds and returns a DOCX document with Study Protocol Flowchart table	∨
GET	<code>/studies/{uid}/interventions</code> Returns Study Protocol Interventions table	∨
GET	<code>/studies/{uid}/interventions.html</code> Builds and returns an HTML document of Study Protocol Interventions table	∨
GET	<code>/studies/{uid}/interventions.docx</code> Builds and returns a DOCX document of Study Protocol Interventions table	∨

Protocol Automation

Example:

- Word-Programming in VBA
- Word-Programming in R
- Word-Programming in Python

API to get

- Study Design as SVG
- Flowchart as HTML or DOCX
- Interventions as HTML or DOCX

Study Protocol

Study Title:	<study title>
Study Number:	<study number>



Study Protocol

Study Title:	A trial comparing cardiovascular safety of human insulin versus metformin in subjects with type 2 diabetes at high risk of cardiovascular events
Study Number:	<study number>



Protocol Automation

```
library(httr)
library(officer)

# Switch to the corresponding working directory
setwd("../OpenStudyBuilderScripts/scripts")

api_url <- "http://localhost:5003"
response <- GET(paste(api_url,"studies", "Study_000001", "protocol-title", sep = "/"))
study_1_prot_title <- jsonlite::fromJSON(rawToChar(response$content))
study_title = toString(study_1_prot_title["study_title"])

print(study_title)

protocol_doc <- read_docx(path = "./files/protocol_example_input.docx")
body_replace_all_text(
  protocol_doc,
  "<study title>",
  study_title)
print(protocol_doc, target = "./files/protocol_example_output_r.docx")
```

Protocol filled in from underlying data

1. Objective

The author may choose to add more or less detail based on expectations of Sponsor/CRO or other local requirements (class of compound, potential disease area, etc.).

The purpose of this study is to evaluate the toxicity **[and determine toxicokinetics]** of the test item/article, **[TRT]**, when administered **[PDOSFRQ]**, **[ROUTE]**, **[SPECIES]**, **[DOSDUR]** (e.g. **once daily by oral gavage to rats for at least 4 weeks**), and to provide data to support the use of **[TRT]** in humans.

2. Proposed Study Schedule

Schedule detail may vary based on study/sponsor/CRO needs. The black text in brackets may be included for studies requiring SEND.

Experimental Start Date (date of first data collection): **[EXPSTDTC]**
Dosing Start Date: **[DOSSTDTC]**
Dosing End Date: **[DOSENDTC]**
Experimental Completion Date (date of last data collected): **[EXPENDTC]**
Audited Draft Report Date: **[DATE]**

3. Sponsor/Test Facility/Test Site Information

Sponsor: **[SSPONSOR]**
Test Facility: **[TSTFNAM]**
Test Site: **[TSNAM]**

Repeat as needed for additional test sites. The black text in brackets may be included for



1. Objective

The author may choose to add more or less detail based on expectations of Sponsor/CRO or other local requirements (class of compound, potential disease area, etc.).

The purpose of this study is to evaluate the toxicity **[and determine toxicokinetics]** of the test item/article, **MyDrug**, when administered **ONCE, INTRAVENOUS, RAT, P29D** (e.g. **once daily by oral gavage to rats for at least 4 weeks**), and to provide data to support the use of **MyDrug** in humans.

2. Proposed Study Schedule

Schedule detail may vary based on study/sponsor/CRO needs. The black text in brackets may be included for studies requiring SEND.

Experimental Start Date (date of first data collection): **2019-08-03**
Dosing Start Date: **2019-08-03**
Dosing End Date: **2019-09-01**
Experimental Completion Date (date of last data collected): **2019-09-01**
Audited Draft Report Date: **[DATE]**

3. Sponsor/Test Facility/Test Site Information

Sponsor: **The sponsor**
Test Facility: **Test facility B**
Test Site: **Test Site A**

Repeat as needed for additional test sites. The black text in brackets may be included for studies requiring SEND.

Clipboard: Paste, Cut, Copy, Format Painter

Font: Times New Roma, 12, Bold, Italic, Underline, Text Color, Background Color

Paragraph: Bullets, Numbering, Indentation, Paragraph Spacing, Styles

Styles: Caption, Char, Document, Emphasis, Heading 1, Heading 2, Heading 3, Heading 5, Heading 6, Heading 7

Editing: Find, Replace, Select, Dictate, Sensitivity, Editor, Reuse Files

Study Protocol



Study Title:

Study ID:

Study Acronym

Project

Program

Table of Contents

1. Objective2

1. Objective

...

Get Study Title & ID

Clipboard: Paste, Cut, Copy, Format Painter

Font: Times New Roma, 12, Bold, Italic, Underline, Text Color, Background Color

Paragraph: Bullets, Numbering, Indentation, Paragraph Spacing, Text Alignment, Text Orientation

Styles: AaBbCcI, Char, Document, Emphasis, Heading 1, Heading 2, Heading 3, Heading 5, Heading 6, Heading 7

Editing: Find, Replace, Select, Dictate, Sensitivity, Editor, Reuse Files

Study Protocol

Study Title: XYZ drug for Epilepsy, rat study

Study ID: CDISC DEV-1234

Study Acronym: Study-1

Project: CDISC Dev

Program: CDISC Development programme

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1. Objective2

1. Objective

...

Get Study Title & ID

Study Protocol

Study Title:	XYZ drug for Epile
Study ID:	CDISC DEV-1234
Study Acronym	Study-1
Project	CDISC Dev
Program	CDISC Developm

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1. Objective

1. Objective

Get Study Title & ID

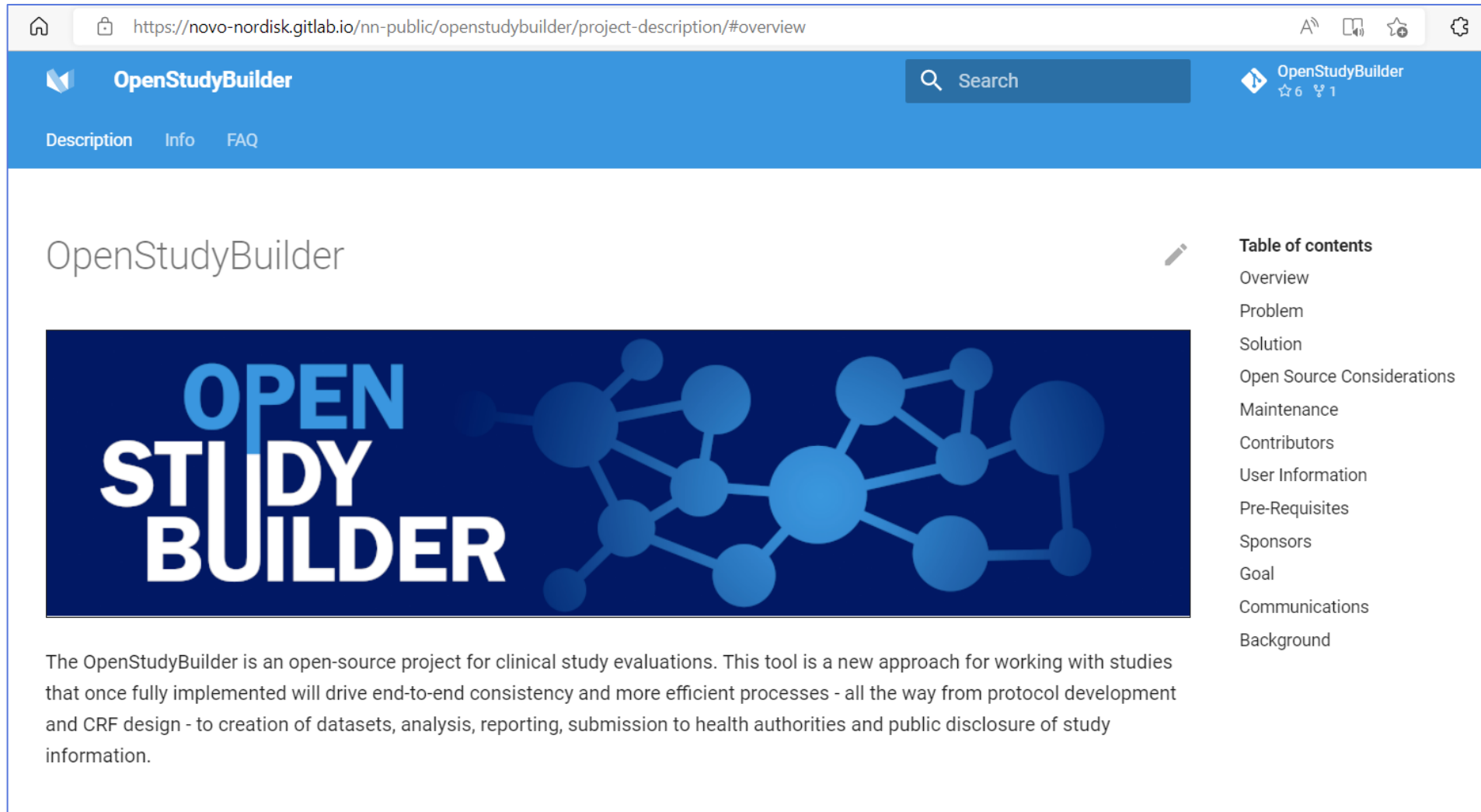
```

Sub GetStudyTitle()
    GetStudyTitle Macro
    Dim xmlhttp As Object
    Dim url As String
    Dim jsonResponse As String
    Dim aString As String
    Dim MyRange As Object
    Set MyRange = ActiveDocument.Bookmarks("StudyTitle").Range
    Set xmlhttp = CreateObject("MSXML2.serverXMLHTTP")
    url = "http://localhost:5003/studies/Study_000002/protocol-title"
    xmlhttp.Open "GET", url, False
    xmlhttp.Send
    jsonResponse = xmlhttp.responseText
    aString = Split(jsonResponse, "####") (7)
    MsgBox (aString)
    Set MyRange = ActiveDocument.Bookmarks("StudyTitle").Range
    MyRange.InsertAfter (aString)
    ' Study number/id
    url = "http://localhost:5003/studies/Study_000002"
    xmlhttp.Open "GET", url, False
    xmlhttp.Send
    jsonResponse = xmlhttp.responseText
    aString = Split(jsonResponse, "####") (11)
    Set MyRange = ActiveDocument.Bookmarks("StudyID").Range
    MyRange.InsertAfter (aString)
    'Acronym
    aString = Split(jsonResponse, "####") (35)
    Set MyRange = ActiveDocument.Bookmarks("StudyAcronym").Range
    MyRange.InsertAfter (aString)
    'Project
    aString = Split(jsonResponse, "####") (43)
    Set MyRange = ActiveDocument.Bookmarks("Project").Range
    MyRange.InsertAfter (aString)
    'Program
    aString = Split(jsonResponse, "####") (47)
    Set MyRange = ActiveDocument.Bookmarks("Program").Range
    MyRange.InsertAfter (aString)
End Sub
    
```



Getting Started

How do I get started on OpenStudyBuilder?



The screenshot shows a web browser window displaying the OpenStudyBuilder project description page. The browser's address bar shows the URL: <https://novo-nordisk.gitlab.io/nn-public/openstudybuilder/project-description/#overview>. The page header includes the OpenStudyBuilder logo, a search bar, and navigation links for "Description", "Info", and "FAQ". The main content area features the title "OpenStudyBuilder" and a large blue banner with the text "OPEN STUDY BUILDER" and a network diagram. Below the banner is a paragraph describing the project as an open-source tool for clinical study evaluations. To the right of the main content is a "Table of contents" menu with links to various sections: Overview, Problem, Solution, Open Source Considerations, Maintenance, Contributors, User Information, Pre-Requisites, Sponsors, Goal, Communications, and Background.

OpenStudyBuilder

**OPEN
STUDY
BUILDER**

The OpenStudyBuilder is an open-source project for clinical study evaluations. This tool is a new approach for working with studies that once fully implemented will drive end-to-end consistency and more efficient processes - all the way from protocol development and CRF design - to creation of datasets, analysis, reporting, submission to health authorities and public disclosure of study information.

Table of contents

- Overview
- Problem
- Solution
- Open Source Considerations
- Maintenance
- Contributors
- User Information
- Pre-Requisites
- Sponsors
- Goal
- Communications
- Background

<https://novo-nordisk.gitlab.io/nn-public/openstudybuilder/project-description/>

Starting with OpenStudyBuilder

Neo4j Sandbox to play around

- Browse, test and investigate functionality
- Checkout Biomedical Concept (linked data browser)

Local installation (free) or Custom/dedicated environment

- API usage to upload/download custom data
 - Load trial domains
 - Browse “your” data

Collaboration Opportunities

- BioCelerate Protocol Template Project
- OpenStudyBuilder community
- PHUSE eProtocol project
- Metadata standards

Collaboration Opportunities

- Enhance OpenStudyBuilder for NonClinical usage
- Create common additional standards “templates”, e.g. for endpoints, scope
- Common tools, processes and guides
 - Protocol automation
 - CRF
 - What to do on distressed animals
 - How to describe statistical planning

Project Homepage

- <https://novo-nordisk.gitlab.io/nn-public/openstudybuilder/project-description/>

Source Repository

- <https://gitlab.com/Novo-Nordisk/nn-public/openstudybuilder/OpenStudyBuilder-Solution>

Solution

COSA Homepage

- <https://cosa.cdisc.org/>

Newsletter (LinkedIn)

- <https://www.linkedin.com/newsletters/openstudybuilder-6990328054849916928/>

Sandbox to request access

- Mail openstudybuilder@neotechnology.com – Subject “Request Sandbox access”

User Scripts & Experiences Documentation

- <https://github.com/KatjaGlassConsulting/OpenStudyBuilderScripts>

Q&A - Thank You!



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OpenStudyBuilder Project

[https://novo-nordisk.gitlab.io/
nn-public/openstudybuilder/project-description/](https://novo-nordisk.gitlab.io/nn-public/openstudybuilder/project-description/)



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