

4th edition

The **financial challenge** of the year

NOVARTISDATATHON

online

 NOVARTIS | Reimagining Medicine

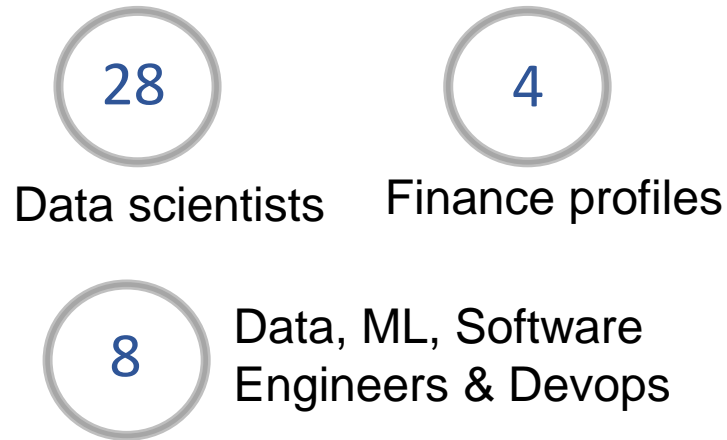


In collaboration with

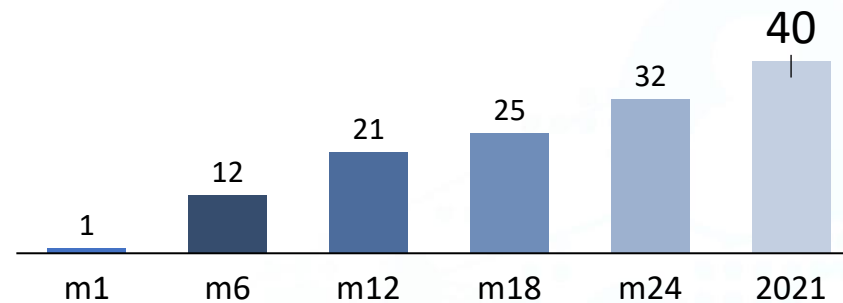
eurecat
Centre tecnològic de Catalunya

The BCN Digital Finance Hub

The team

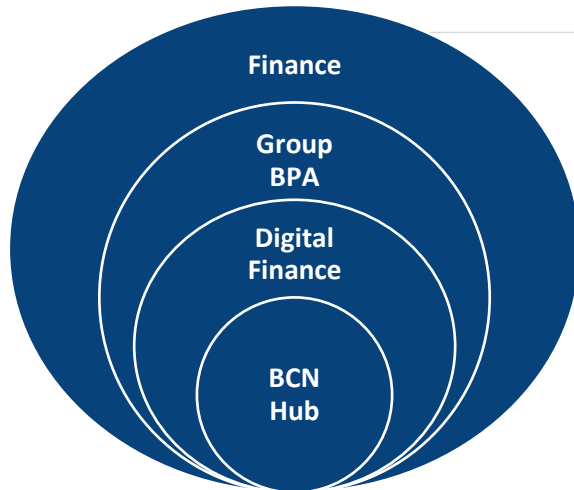


Evolution of the hub



Diverse team with
+15 different nationalities

1/2 Local talent



Our position at Novartis

- Innovative Medicine
- Global Drug Development
- Technical Operations

Background



Our mission

Reimagine medicine to improve people's lives

- We are a medicine-focused company powered by advanced therapy platforms and artificial intelligence.
- R&D of new products of our Innovative Medicine Division can take 10 to 15 years from discovery to commercial product launch.

New launches

- The first months after a product is released on the market are crucial.
- We aim to reach as many patients as possible in a short period of time.
- To reach many patients, we need to reach many HealthCare Professionals (HCPs).

Our field force is the key.

Datathon question

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What is the impact of field force on the sales of new launches?

Datathon challenge

1. Technical challenge

For the two products in scope, participants are required to provide **14 months of sales forecast** after the launch date together with **80% confidence intervals** for the given predictions.

2. Business challenge

All teams that present in front of the Jury will be asked to provide a detailed analysis exploring the impact of provided features on the sales growth, with a **focus** on the **field force** activities.

Datathon criteria

The winner will be selected according to three phases with different criteria.

1. **Accuracy:** a quantitative metric is adopted to compute the accuracy of the sales forecasting you are going to provide.

This metric will be used to select the **top 10 teams** with the lowest error in the sales forecast.

2. **Confidence:** a second quantitative metric is used to measure the accuracy of the provided confidence intervals (upper and lower bounds for the sales).

The **5 teams** with the smallest error in this metric will be selected to present in front of the Jury.

3. **Jury's criteria:** the members of the Jury have both technical and business background, and they can ask questions about any aspects of the solution.

At the end, the Jury decides the 3 winners of the Datathon.

Data provided – Sales

Information about the sales, that are the target variable.

- **month**
- **region**
- **brand**: anonymized name of the brand
- total **sales** corresponding to the given month, region and brand

month	region	brand	sales
2020-01	region_0	brand_1	0.00
2020-01	region_0	brand_2	0.00
2020-01	region_0	brand_3	65007.49
2020-01	region_0	brand_12_market	509023.69
2020-01	region_0	brand_3_market	940469.05

Data provided – Sales

Information about the sales, that are the target variable.

- **month**
- **region**
- **brand**: anonymized name of the brand
- **brand_1, brand_2**: two newly-launched brands

month	region	brand	sales
2020-01	region_0	brand_1	0.00
2020-01	region_0	brand_2	0.00
2020-01	region_0	brand_3	65007.49
2020-01	region_0	brand_12_market	509023.69
2020-01	region_0	brand_3_market	940469.05

Data provided – Sales

Information about the sales, that are the target variable.

- **month**
- **region**
- **brand**: anonymized name of the brand
- **brand_3**: another Novartis brand that is no longer promoted

month	region	brand	sales
2020-01	region_0	brand_1	0.00
2020-01	region_0	brand_2	0.00
2020-01	region_0	brand_3	65007.49
2020-01	region_0	brand_12_market	509023.69
2020-01	region_0	brand_3_market	940469.05

Data provided – Sales

Information about the sales, that are the target variable.

- **month**
- **region**
- **brand**: anonymized name of the brand
- **brand_12_market**: market potential of brand_1 and brand_2
- **brand_3_market**: market potential of brand_3

month	region	brand	sales
2020-01	region_0	brand_1	0.00
2020-01	region_0	brand_2	0.00
2020-01	region_0	brand_3	65007.49
2020-01	region_0	brand_12_market	509023.69
2020-01	region_0	brand_3_market	940469.05

Data provided – Sales

Sales data are split to train (public) and test (private) part.

Train data

- Regions 0, 1, ..., 150:
 - sales information for brand_1, brand_2, brand_3, brand_12_market and brand_3_market

Data provided – Sales

Sales data are split to train (public) and test (private) part.

Train data

- Regions 0, 1, ..., 150:
 - sales information for brand_1, brand_2, brand_3, brand_12_market and brand_3_market
- Regions 151, 152, ..., 200:
 - sales information only for brand_3, brand_12_market and brand_3_market

Data provided – Sales

Sales data are split to train (public) and test (private) part.

Train data

- Regions 0, 1, ..., 150:
 - sales information for brand_1, brand_2, brand_3, brand_12_market and brand_3_market
- Regions 151, 152, ..., 200:
 - sales information only for brand_3, brand_12_market and brand_3_market

Test data

- Information on sales for brand_1 and brand_2 in regions 151, 152, ..., 200.
- These are the sales that you are required to predict; these data are not publicly available.

Data provided – HCPs

- HCP = **H**ealth **C**are **P**rofessional
- 5 specializations can prescribe brand_1 and brand_2:

	region	Internal medicine	Internal medicine / pneumology	General practitioner	Internal medicine and general practitioner	Pediatrician
0	region_0	315	18	264	2	82
1	region_1	239	7	273	1	42
2	region_2	153	5	182	2	47
3	region_3	181	11	206	0	30
4	region_4	151	9	199	0	33

Data provided – prioritized HCPs

- Tier denotes the priority level, 1 has highest priority
- Non-prioritized HCPs are not included in this table.

	hcp	tier	region	specialty
0	83	2	region_59	Internal medicine
1	112	1	region_103	Internal medicine
2	307	2	region_33	Internal medicine / pneumology
3	387	2	region_97	Internal medicine / pneumology
4	426	1	region_118	General practitioner

Data provided – glossary

Brands: product names

- **brand_1** and **brand_2** are the two newly-launched brands. Both have the same indication, that is both are targeting patients with the same respiratory disease.
- **brand_3** is another Novartis brand that has indication different from brand_1 and brand_2. It has stable position at the market and its sales are not affected by the promotional activities relevant to brand_1 and brand_2.

Market potential: total sales of all brands by Novartis and competition targeting patients with the same disease.

- **brand_12_market** is the market potential for brand_1 and brand_2. Both brands have the same indication, which means that they have the same market potential.
- **brand_3_market** is the market potential for brand_3.

Note that market potentials contain the sales of the brand itself, for instance brand_12_market covers the sales of brand_1 and brand_2.

Data provided – glossary

Prioritized HCPs

- Each HCP is assigned a tier – this is internal Novartis code denoting the priority of the HCP. Tier 1 means higher priority than tier 2 and tier 2 is higher priority than tier 3.
- The numbers of HCPs in the high priority table grouped by region and specialty are smaller than in the previous table – this is because the high priority table does not contain detailed information on the non-prioritized HCPs.

Data provided - Activity

Data on promotional activities (visits) performed by Novartis field-force representatives (reps).

- **hcp**: anonymized code of the visited HCP
- **specialty** of the HCP
- **region** where the activity has been done (few HCPs are active in more than one region)
- **brand** discussed during the visit
- **month** of the visit
- communication **channel**: f2f (face-to-face), phone, video or other (mainly emails with personalized content)
- **count**: number of visits of this type

hcp	specialty	region	brand	month	channel	count
39972	Internal medicine / pneumology	region_61	brand_1	2020-05	video	1
64026	General practitioner	region_168	brand_2	2020-05	phone	1
27892	Internal medicine	region_26	brand_2	2020-06	phone	1
33500	General practitioner	region_26	brand_2	2020-06	phone	1

Data provided - RTEs

Information about Rep-Triggered Emails

Rep Triggered Emails are emails with a pre-defined content prepared by the marketing team. They are triggered by the rep who decides which content is relevant to each HCP and when those emails are sent.

- **hcp, specialty, region**
- **Emails** are related to brand_1 and brand_2
- **email_type**: general (general information about the respiratory disease not mentioning the product name) or product_related (directly mentions the product name)

hcp	specialty	region	brand	email_type	content_id	no. openings	no. clicks	time_sent	time_last_opened	time_last_clicked
171	General practitioner	region_132	brand_2	product_related	a3D6f0000019fLWEAY	3	0	2020-07-02 12:07:00	2020-07-02 18:53:00	NaT
171	General practitioner	region_132	brand_1	product_related	a3D6f0000019jDTEAY	1	0	2020-08-17 12:33:00	2020-08-17 13:50:00	NaT
171	General practitioner	region_132	brand_1	product_related	a3D6f000000MtrEAC	2	0	2020-09-08 10:55:00	2020-09-08 20:40:00	NaT
171	General practitioner	region_132	brand_1	general	a3D6f000000Mpy8EAC,a3D6f0000019ivnEAA	1	0	2020-08-12 17:31:00	2020-08-12 17:49:00	NaT
173	Internal medicine	region_46	brand_1	general	a3D6f000001HndwEAC	0	0	2021-02-23 13:45:00	NaT	NaT

Data provided - RTEs

- **content_id**: each type of content designed by the marketing team is assigned a unique id.
- **no. openings**: number of times the email has been opened by the HCP
- **no. clicks**: number of times the HCP clicked on the link in the email
- **time_sent**: time stamp of when the email has been sent
- **time_last_opened**: last time the link in the email has been opened
- **time_last_clicked**: last time the content of the link has been clicked

hcp	specialty	region	brand	email_type	content_id	no. openings	no. clicks	time_sent	time_last_opened	time_last_clicked
171	General practitioner	region_132	brand_2	product_related	a3D6f0000019fLWEAY	3	0	2020-07-02 12:07:00	2020-07-02 18:53:00	NaT
171	General practitioner	region_132	brand_1	product_related	a3D6f0000019jDTEAY	1	0	2020-08-17 12:33:00	2020-08-17 13:50:00	NaT
171	General practitioner	region_132	brand_1	product_related	a3D6f000000MtrEAC	2	0	2020-09-08 10:55:00	2020-09-08 20:40:00	NaT
171	General practitioner	region_132	brand_1	general	a3D6f000000Mpy8EAC,a3D6f0000019ivnEAA	1	0	2020-08-12 17:31:00	2020-08-12 17:49:00	NaT
173	Internal medicine	region_46	brand_1	general	a3D6f000001HndwEAC	0	0	2021-02-23 13:45:00	NaT	NaT

Data provided - Regions

Information about the different regions

- **population** in the region
- **area** of the region
- average **per capita income** in 2016 and 2018

	region	population	area	pci16	pci18
0	region_0	381958	1372.440545	38799.972381	40214.895762
1	region_1	431383	4701.726213	45377.708041	47137.854237
2	region_2	318026	2574.943849	42578.018793	44456.389595
3	region_3	343861	3639.373478	46856.492170	48564.228841
4	region_4	330916	3926.381089	44462.421679	46388.545070

Insights and hints

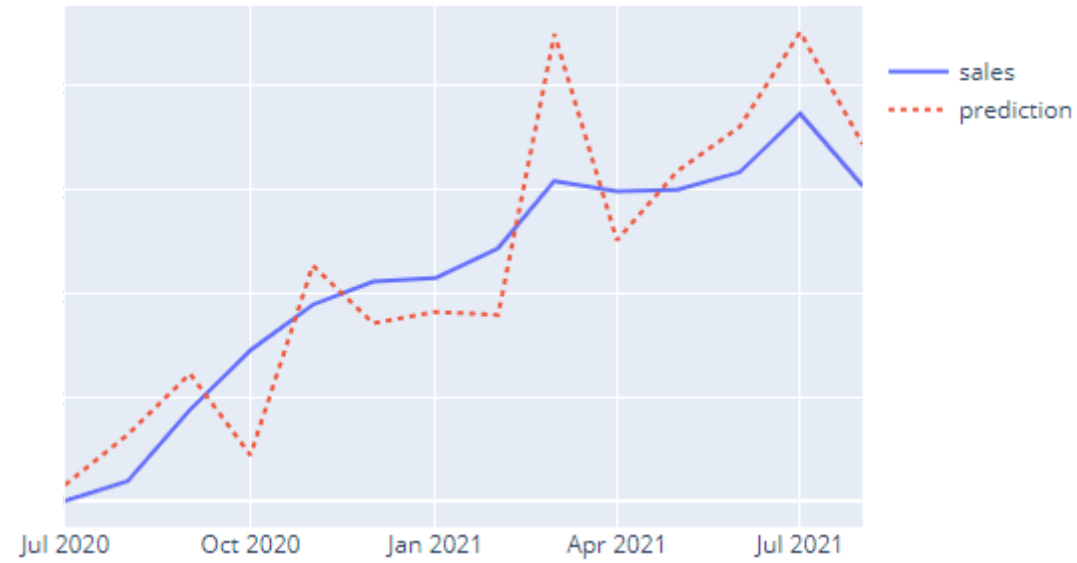
- Among all the activities we have, how should sales representatives distribute their efforts? Should they communicate by f2f or digital channel?
- The regions are different and in some of them, Novartis historically had stronger position than in others.

Accuracy metric

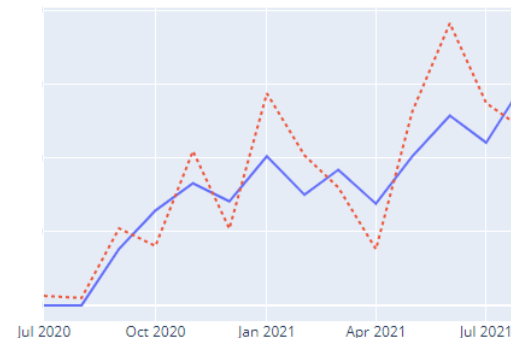
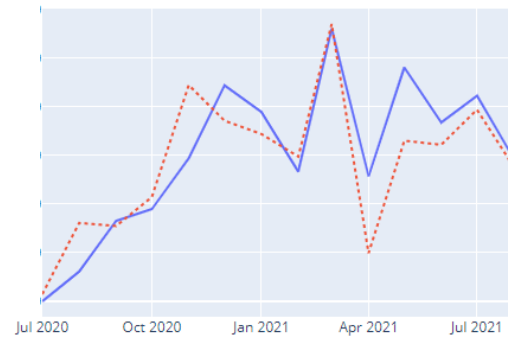
To compute the prediction error, the absolute difference between the monthly predicted values and the actual sales is evaluated for the two distinct brands.

1. Both errors of Brand_1 and Brand_2 are weighted equally.
2. For each brand, the metric is computed both at regional and country level.

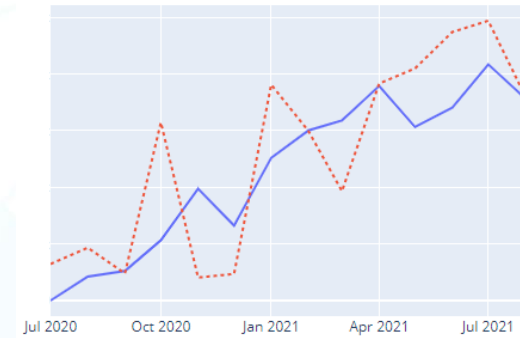
Country level



Region level



...



Accuracy metric

Region level

$y_{r,t}^b$ = true sales of brand b in region r month t
 $\hat{y}_{r,t}^b$ = model predictions

Mean absolute error: region level

$$MAE_r^b = \frac{1}{14} \sum_t |y_{r,t}^b - \hat{y}_{r,t}^b|$$

Mean absolute error: aggregated

$$MAE^b = \frac{MAE_c^b}{\langle m_c \rangle} + \frac{1}{50} \sum_r \frac{MAE_r^b}{\langle m_r \rangle}$$

$\langle m_c \rangle, \langle m_r \rangle$ = brand_12_market at country / region level
 averaged over the time period 01/2020 – 08/2021

Country level (country is represented by the regions present in the test dataset)

$y_{c,t}^b = \sum_r y_{r,t}^b$ total sales of brand b
 $\hat{y}_{c,t}^b = \sum_r \hat{y}_{r,t}^b$ total sales predictions of brand b

Mean absolute error: country level

$$MAE_c^b = \frac{1}{14} \sum_t |y_{c,t}^b - \hat{y}_{c,t}^b|$$

Final metric:

$$MAE = 10000 \left(\frac{1}{2} MAE^{(1)} + \frac{1}{2} MAE^{(2)} \right)$$

Confidence interval metric

$\hat{u}_{r,t}^b$ = upper prediction bound for region r , brand b , month t

$\hat{\ell}_{r,t}^b$ = lower prediction bound for region r , brand b , month t

Given the prediction interval $\{\hat{\ell}_{r,t}^b, \hat{u}_{r,t}^b\}$, the confidence interval metric has two components:

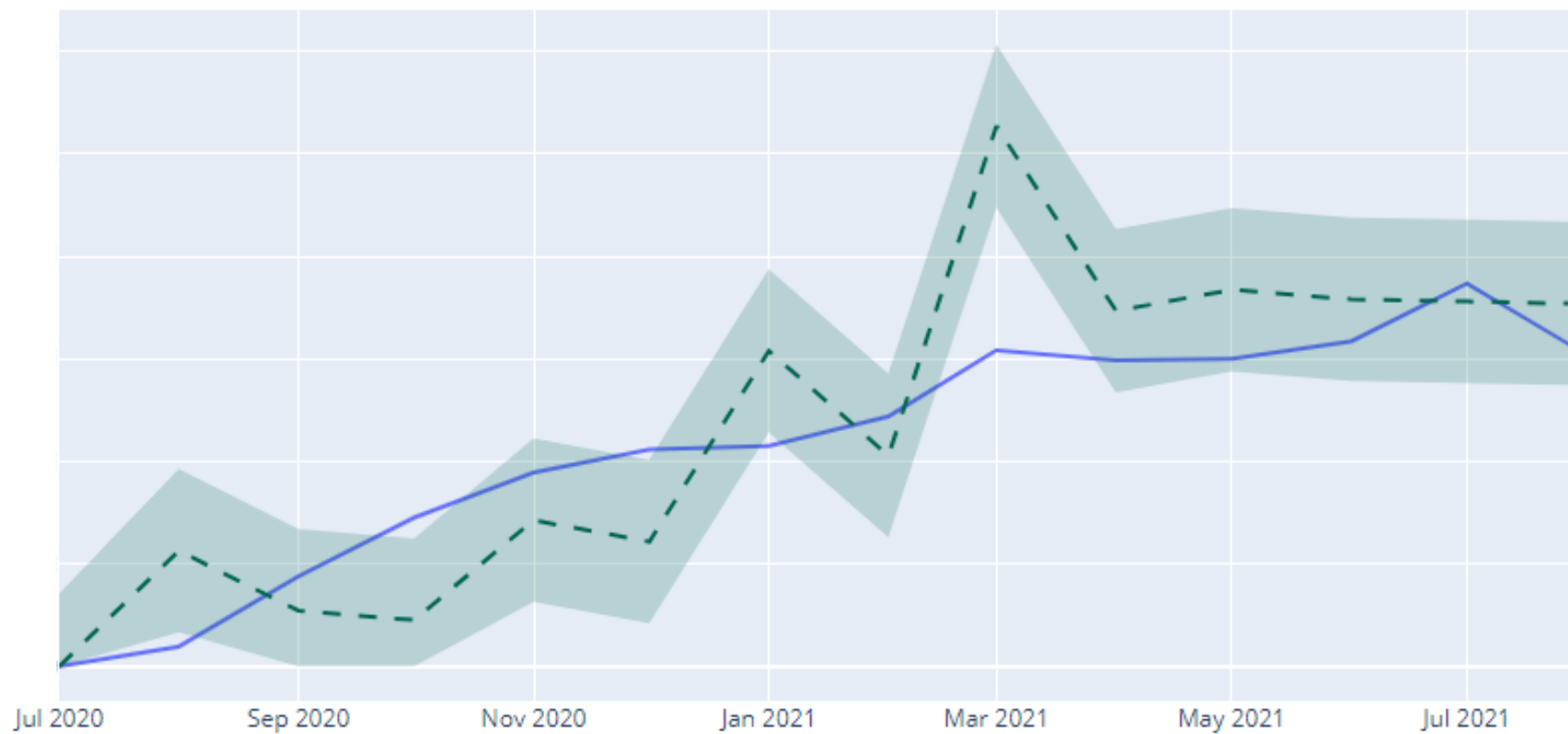
1. Coverage – do the actual values fall inside the interval?

$$\hat{\ell}_{r,t}^b < y_{r,t}^b < \hat{u}_{r,t}^b$$

2. Width – wide intervals are penalized.

$$|\hat{u}_{r,t}^b - \hat{\ell}_{r,t}^b|$$

Confidence metric



Confidence metric formula

Confidence error
for given region,
brand and time

$$\Delta_{r,t}^b = \hat{u}_{r,t}^b - \hat{\ell}_{r,t}^b + \frac{2}{\alpha} \left[(y_{r,t}^b - \hat{u}_{r,t}^b) \Theta(y_{r,t}^b - \hat{u}_{r,t}^b) + (\hat{\ell}_{r,t}^b - y_{r,t}^b) \Theta(\hat{\ell}_{r,t}^b - y_{r,t}^b) \right]$$

Interval width Real point above Real point below
penalization upper interval lower interval

Confidence error
for given region
and brand

$$\Delta_r^b = \frac{1}{14} \sum_t \Delta_{r,t}^b$$

Confidence error
for given brand

$$\Delta^b = \frac{1}{50} \sum_r \frac{\Delta_r^b}{\langle m_r \rangle}$$

α = confidence level; you are required to
predict 80% confidence intervals, so $\alpha = 0.2$

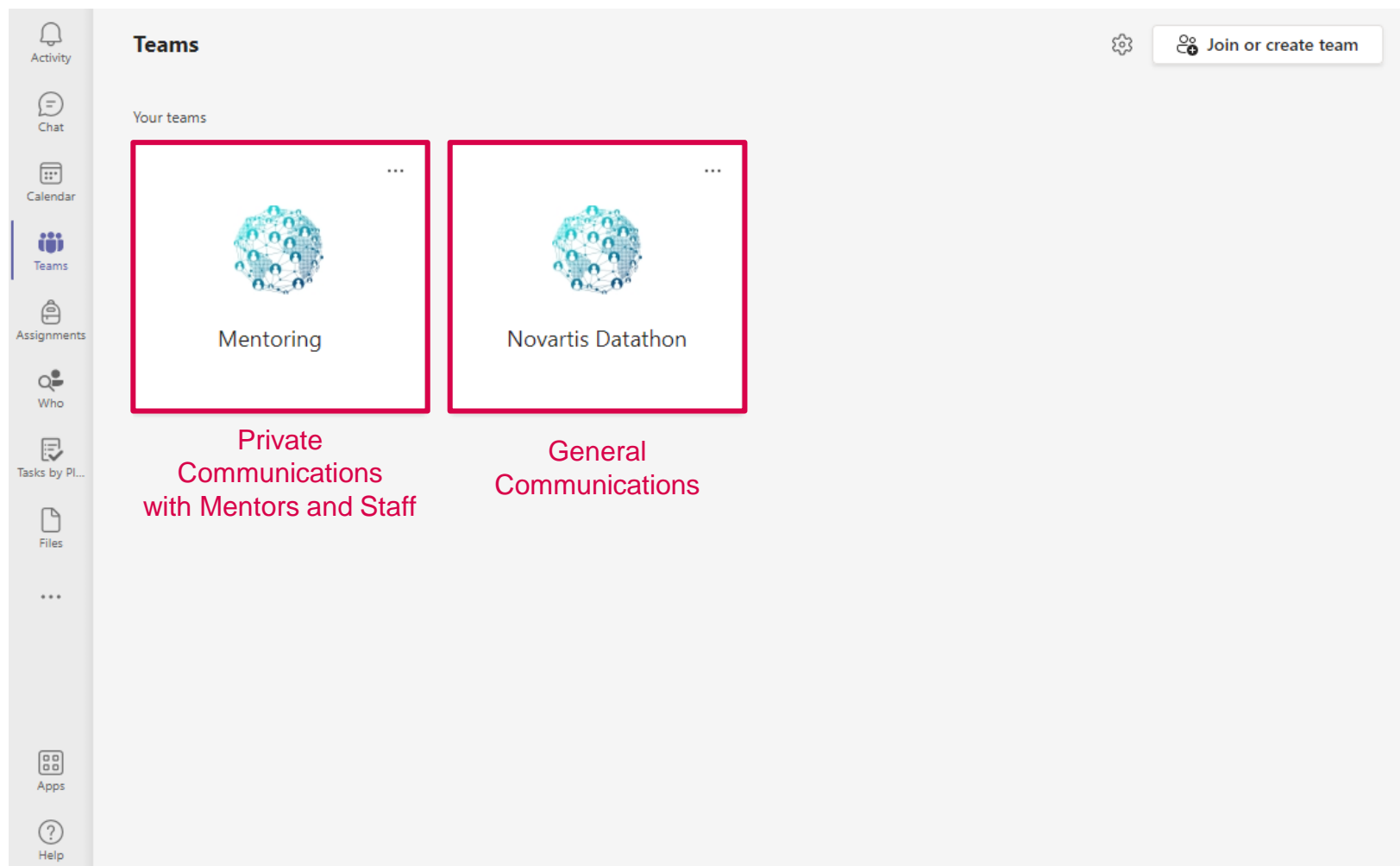
Final confidence error:

$$\Delta = 10000 \left(\frac{1}{2} \Delta^{(1)} + \frac{1}{2} \Delta^{(2)} \right)$$

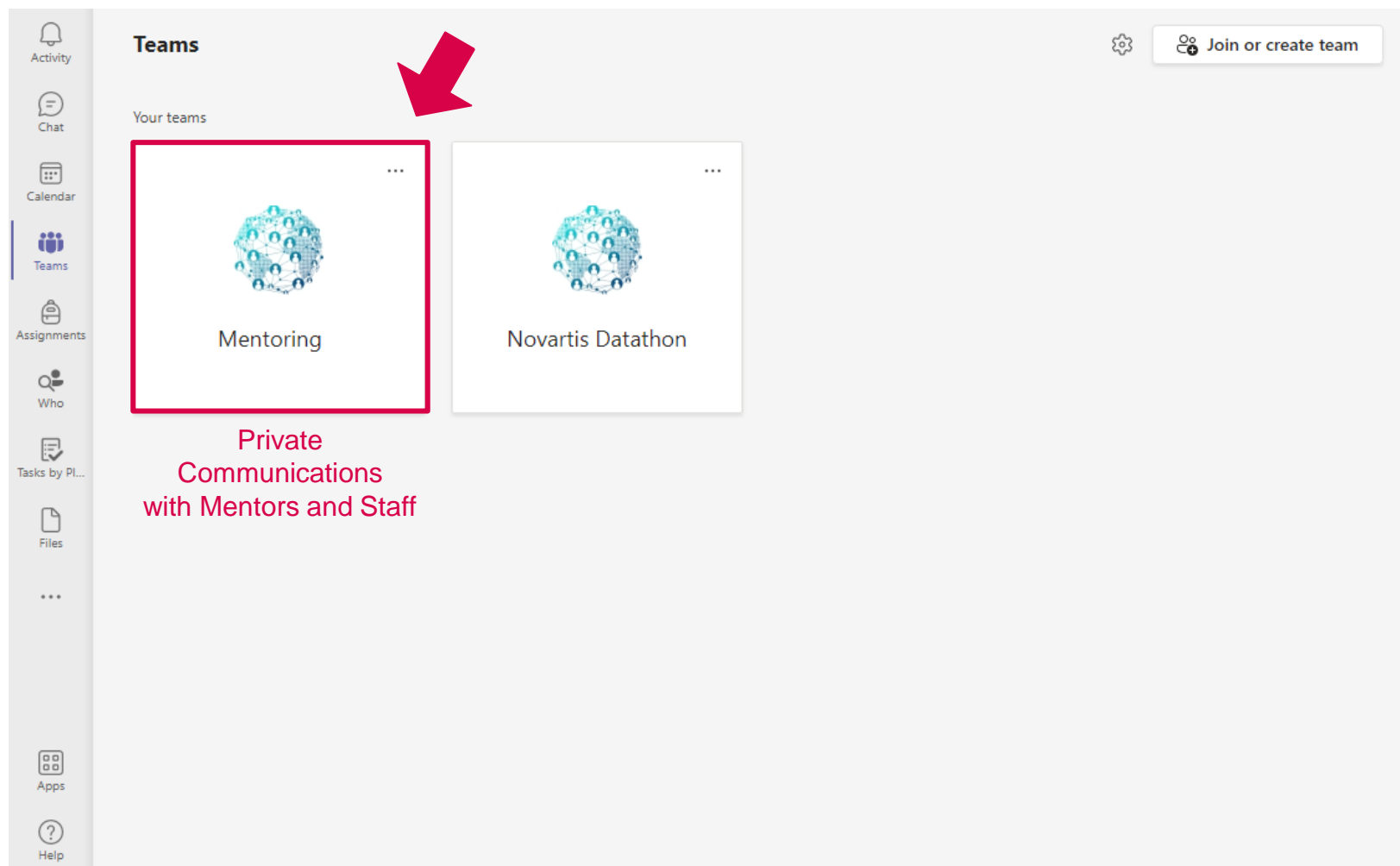
Technical part

Communication: **Microsoft Teams**
Upload the results: **Datathon Platform**

Communication Channel

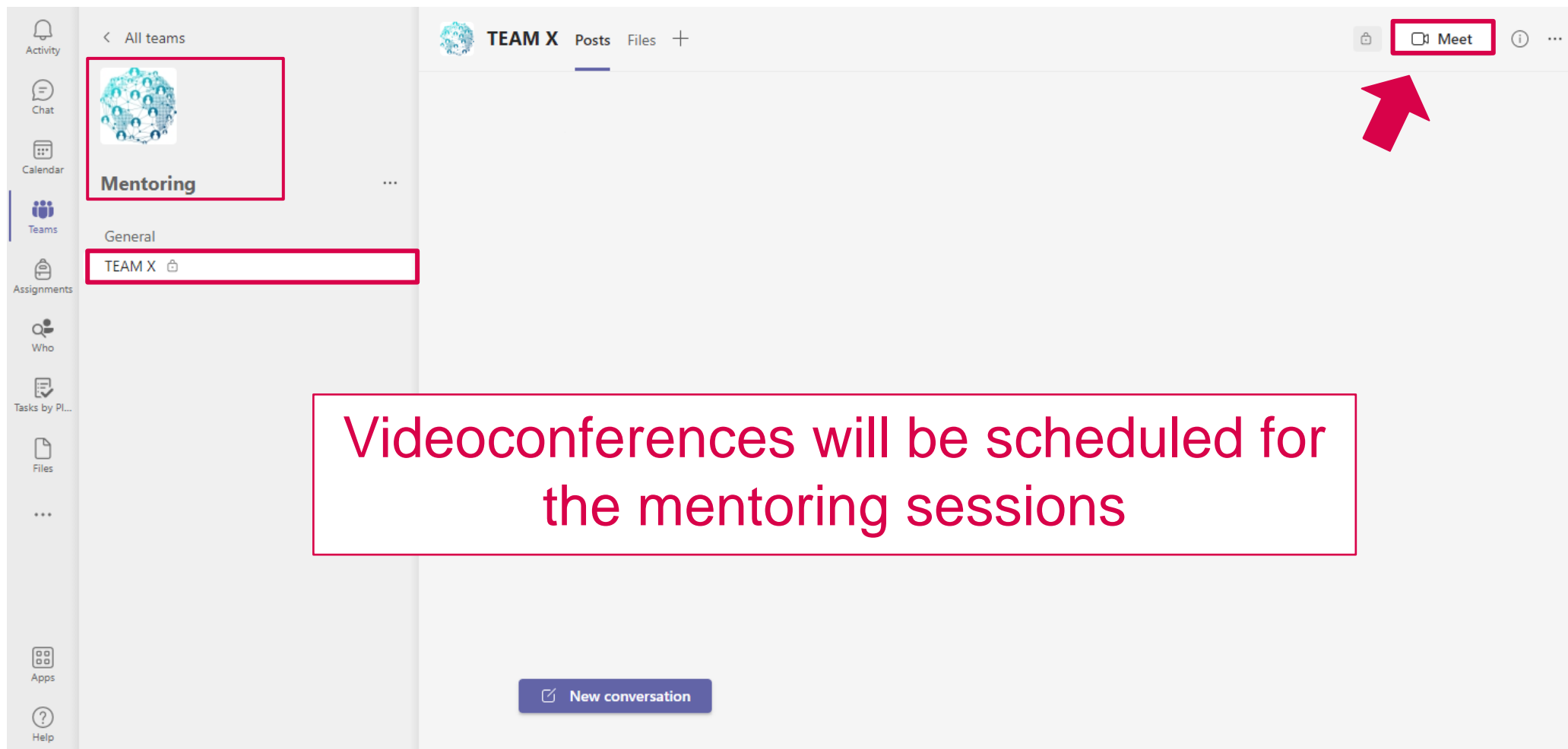


Communication Channel

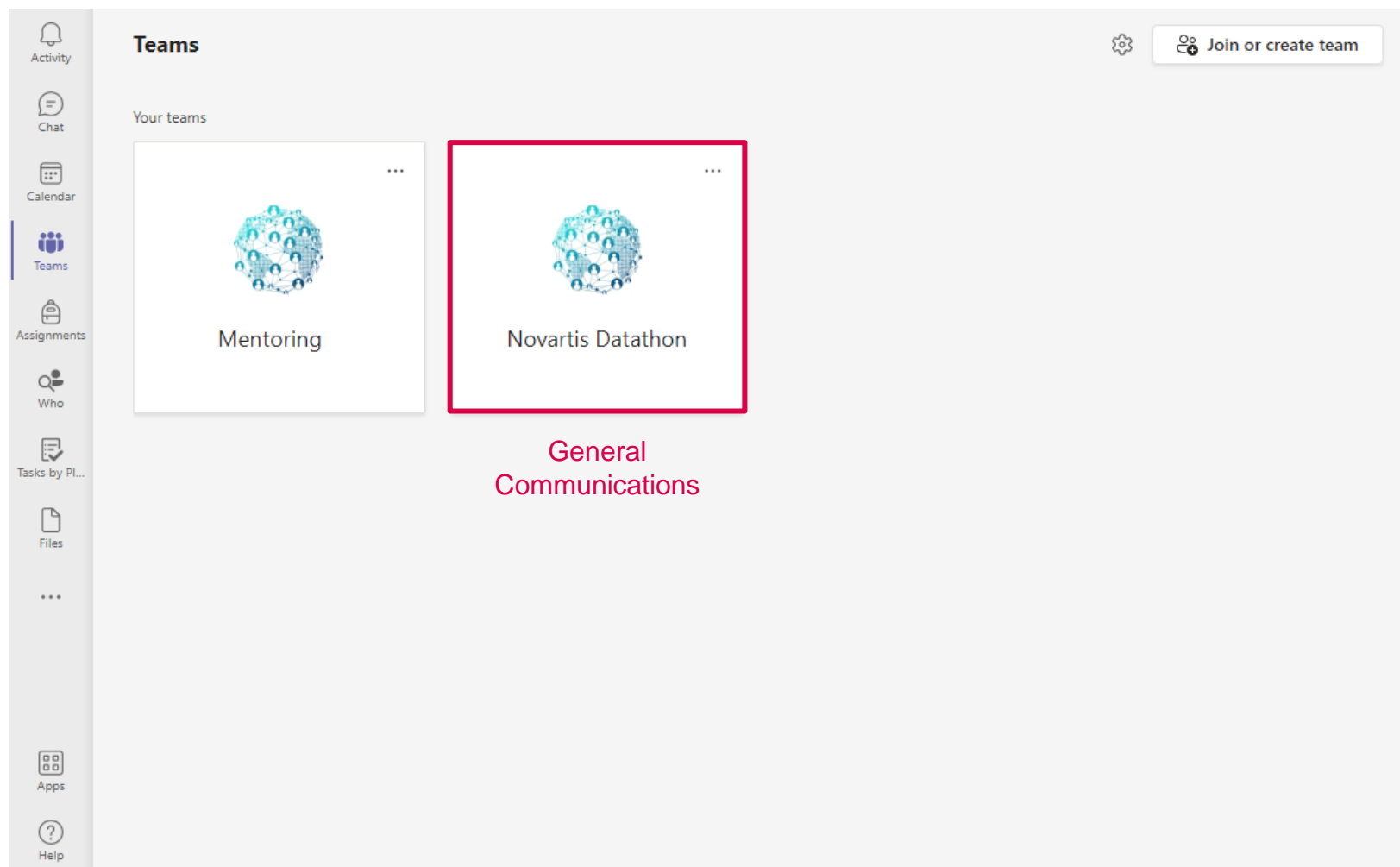


Communication Channel

Private communications

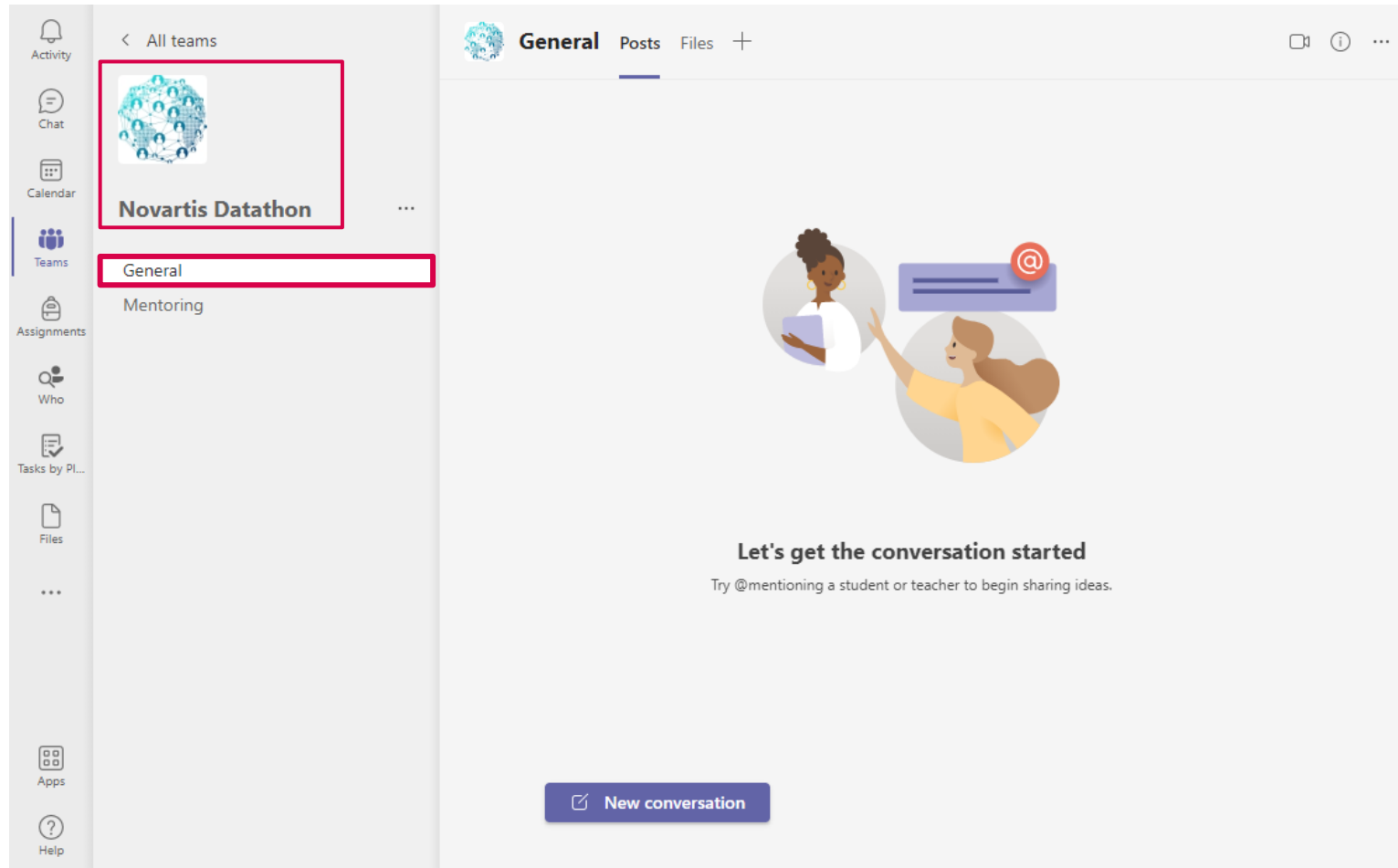


Communication Channel



Communication Channel

General communications



Download data

Activity

Chat

Calendar

Teams

Assignments

Who

Tasks by PL...


Files

...

Apps

Help

< All teams




Novartis Datathon

General

Mentoring

...

 **General** Posts **Files** +

+ New

↑ Upload

↻ Sync

🔗 Copy link




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☰ All Documents

Documents > **General**

 Name	Modified	Modified By
 data	5 minutes ago	Mar Galofré Cardo
 presentations	5 minutes ago	Mar Galofré Cardo

Download data

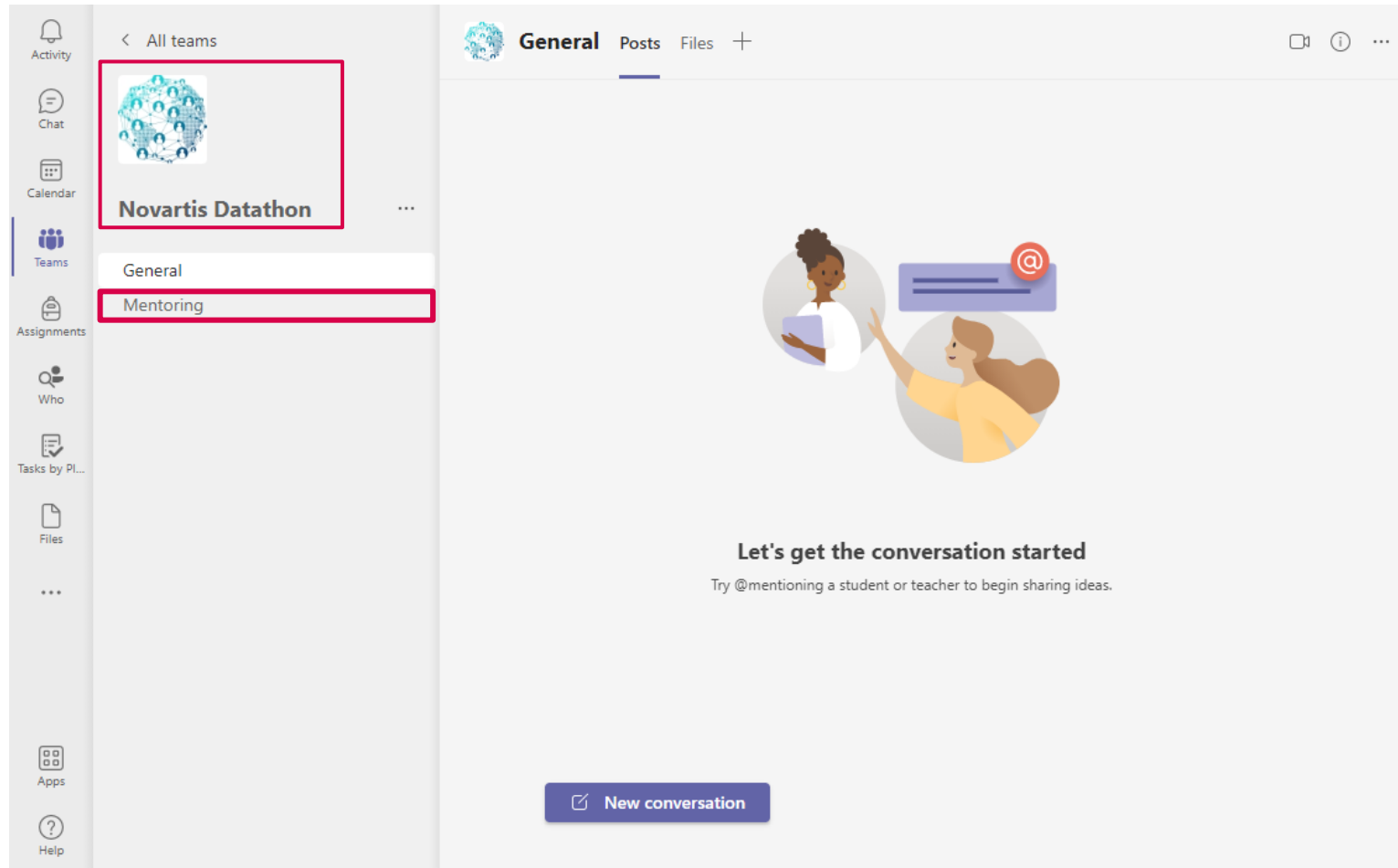
The screenshot shows the Microsoft Teams interface for the 'Novartis Datathon' team. The 'General' channel is selected, and the 'Files' tab is active. The 'Download' button is highlighted in the top bar. Below it, the 'Data Files' and 'Metric Files' folders are highlighted. The 'submission_sample.csv' file is also highlighted. A large red box at the bottom contains the text 'File "Submission sample"'.

Name	Modified	Modified By
Data Files	12 minutes ago	David Suñol Moreno
Metric Files	12 minutes ago	David Suñol Moreno
submission_instructions.pdf	A few seconds ago	David Suñol Moreno
submission_sample.csv	10 minutes ago	David Suñol Moreno

File "Submission sample"

Communication Channel

General communications



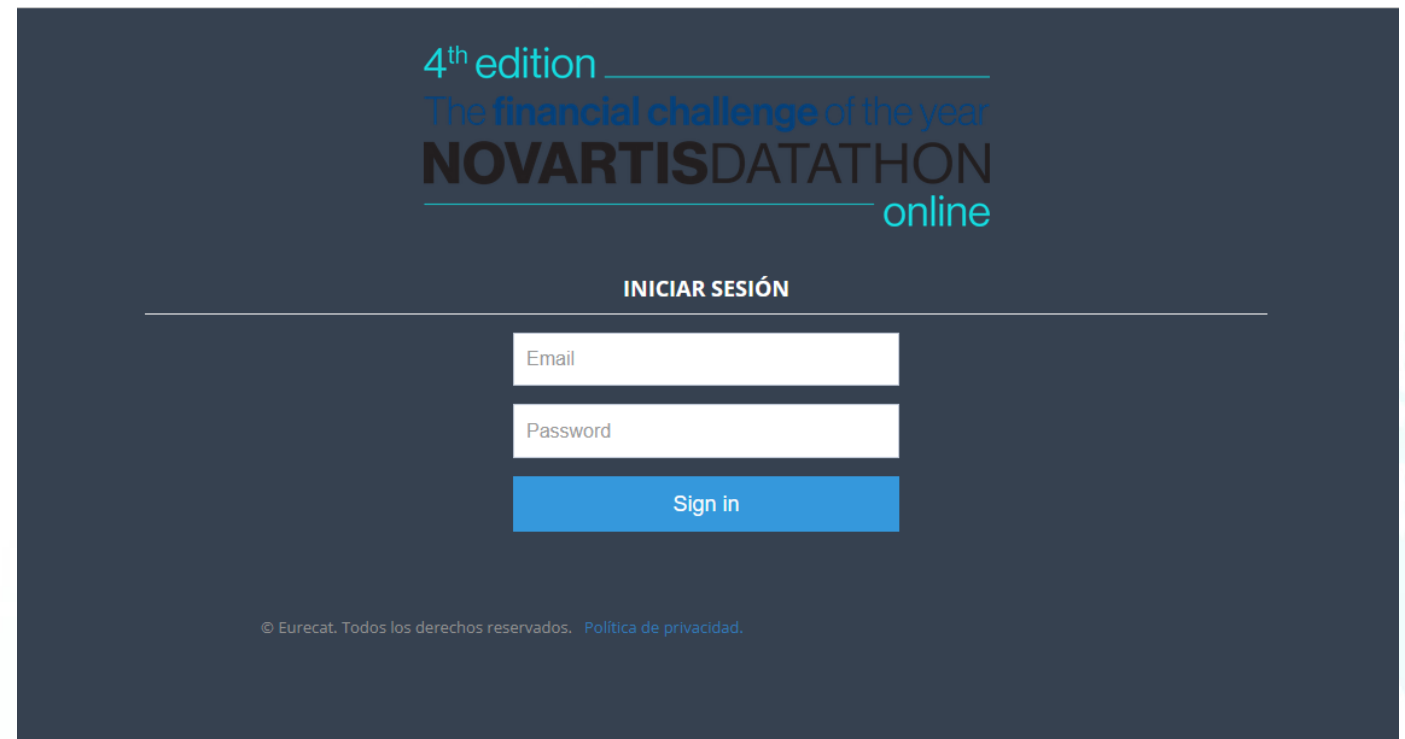
Login in the platform

URL: <http://84.88.76.50/>

Credentials

user: teamX@novartisdatathon

password: pwdteamX



The screenshot shows the login interface for the 4th edition of the Novartis Datathon. The header includes the text '4th edition', 'The financial challenge of the year', and 'NOVARTISDATATHON online'. Below this is a horizontal line followed by the text 'INICIAR SESIÓN'. The login form consists of two input fields: 'Email' and 'Password', both with placeholder text. Below these fields is a blue button labeled 'Sign in'. At the bottom of the page, there is a small copyright notice: '© Eurecat. Todos los derechos reservados. Política de privacidad.'

Submission structure

The **csv** you submit **must have**:

- a header
- same number of rows and columns as the test dataset / template
- all values (no NaNs allowed)
- comma-separated values
- points representing decimals

month	region	brand	sales	lower	upper
2020-07	region_151	brand_1	50.00	0.00	100.00
2020-07	region_151	brand_2	50.00	0.00	100.00
2020-07	region_152	brand_1	50.00	0.00	100.00
2020-07	region_152	brand_2	50.00	0.00	100.00
2020-07	region_153	brand_1	50.00	0.00	100.00
2020-07	region_153	brand_2	50.00	0.00	100.00
2020-07	region_154	brand_1	50.00	0.00	100.00
2020-07	region_154	brand_2	50.00	0.00	100.00
2020-07	region_155	brand_1	50.00	0.00	100.00
2020-07	region_155	brand_2	50.00	0.00	100.00
2020-07	region_156	brand_1	50.00	0.00	100.00
2020-07	region_156	brand_2	50.00	0.00	100.00
2020-07	region_157	brand_1	50.00	0.00	100.00
2020-07	region_157	brand_2	50.00	0.00	100.00
2020-07	region_158	brand_1	50.00	0.00	100.00
2020-07	region_158	brand_2	50.00	0.00	100.00
2020-07	region_159	brand_1	50.00	0.00	100.00
2020-07	region_159	brand_2	50.00	0.00	100.00
2020-07	region_160	brand_1	50.00	0.00	100.00
2020-07	region_160	brand_2	50.00	0.00	100.00
2020-07	region_161	brand_1	50.00	0.00	100.00
2020-07	region_161	brand_2	50.00	0.00	100.00
2020-07	region_162	brand_1	50.00	0.00	100.00
2020-07	region_162	brand_2	50.00	0.00	100.00

How to submit results

Change the **password**

Please **change** the password

The screenshot displays the Novartis Datathon interface. The top navigation bar includes the logo, a menu icon, and a user profile dropdown for 'Team2'. The main content area is divided into a sidebar and a main panel. The sidebar contains links for 'Dashboard / Panel', 'Checkpoint', 'Graph', and 'Team Submissions'. The main panel shows a 'Ranking' table with columns for Team, Prediction Error, Confidence Error, and Ranking. Below the table, there is a 'Profile' section with a 'Change password' button. A red arrow labeled '1' points to the user profile dropdown, and another red arrow labeled '2' points to the 'Change password' button. The 'Change Password' form includes fields for 'Current Password*', 'Password (8 or more characters)*', and 'Repeat Password*'. A note at the bottom states '*Fields with '*' are mandatory.' and there are 'Cancel' and 'Update' buttons.

Team	Prediction Error	Confidence Error	Ranking
Team2	60.0480149733		
Team3	105.977559843		
Team1	107.885133827		

Profile

General info

Change password

Current Password*

Password (8 or more characters)*

Repeat Password*

Fields with '' are mandatory.

Cancel Update

How to submit results

Submission

The screenshot shows the Novartis Datathon online interface. On the left, a dark sidebar contains navigation options: 'Dashboard / Panel' (highlighted with a red box and a red arrow), 'Checkpoint', 'Graph', and 'Team Submissions'. The main content area has a breadcrumb trail: 'HOME • Dashboard / Panel • Checkpoint'. Below this, there is a blue icon with a white cloud and a red arrow pointing to it. The 'Ranking' section displays a table with the following data:

Team	Prediction Error	Confidence Error	Ranking
Team2	60.04801497330292	258.6273061900464	1
Team3	105.97755984338052	487.78542662934007	2
Team1	107.88513382742055	528.1731642285866	3

How to submit results

Ranking checkpoints

HOME • Dashboard / Panel • Checkpoint

Errors calculated only over the 34% of the test set

Ranking

Team	Prediction Error	Confidence Error	Ranking
Team2	60.04801497330292	258.6273061900464	1
Team3	105.97755984338052	487.78542662934007	2
Team1	107.88513382742055	528.1731642285866	3

Your best submission is shown

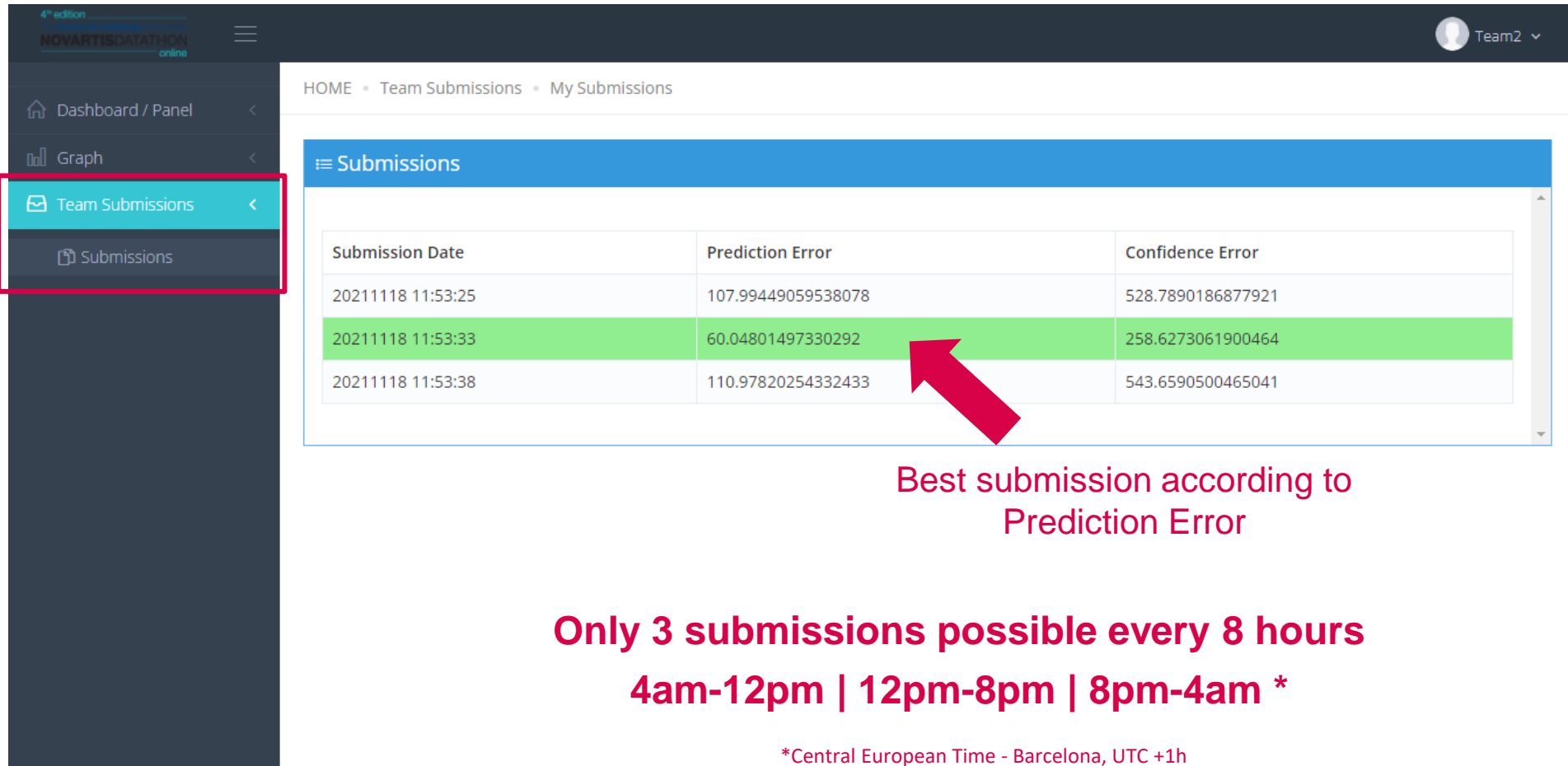
How to submit results

Ranking checkpoints



How to submit results

History of submissions



The screenshot shows the 'Team Submissions' page in the Novartis Datathon interface. The left sidebar has a red box around the 'Team Submissions' menu item. The main content area displays a table of submissions. The second row, representing the best submission, is highlighted in green and pointed to by a red arrow.

Submission Date	Prediction Error	Confidence Error
20211118 11:53:25	107.99449059538078	528.7890186877921
20211118 11:53:33	60.04801497330292	258.6273061900464
20211118 11:53:38	110.97820254332433	543.6590500465041

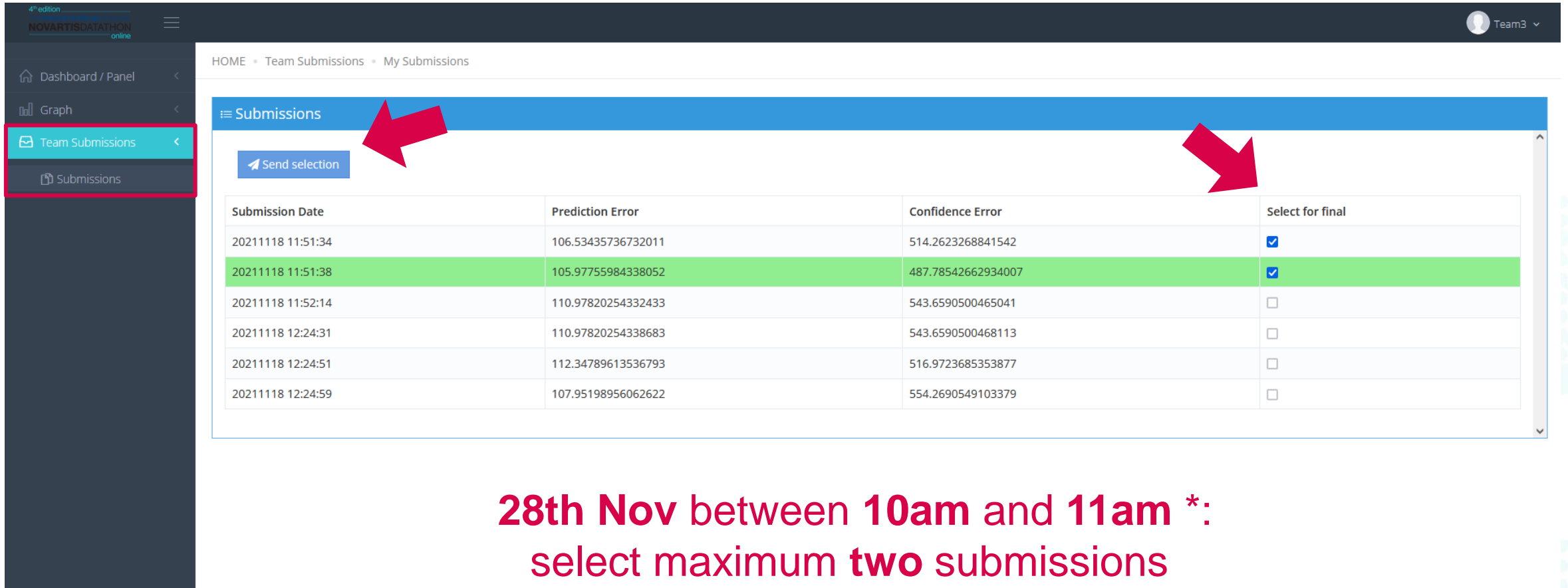
Best submission according to Prediction Error

Only 3 submissions possible every 8 hours
4am-12pm | 12pm-8pm | 8pm-4am *

*Central European Time - Barcelona, UTC +1h

How to submit results

Final Submission (last hour)



HOME • Team Submissions • My Submissions

Submissions

Send selection

Submission Date	Prediction Error	Confidence Error	Select for final
20211118 11:51:34	106.53435736732011	514.2623268841542	<input checked="" type="checkbox"/>
20211118 11:51:38	105.97755984338052	487.78542662934007	<input checked="" type="checkbox"/>
20211118 11:52:14	110.97820254332433	543.6590500465041	<input type="checkbox"/>
20211118 12:24:31	110.97820254338683	543.6590500468113	<input type="checkbox"/>
20211118 12:24:51	112.34789613536793	516.9723685353877	<input type="checkbox"/>
20211118 12:24:59	107.95198956062622	554.2690549103379	<input type="checkbox"/>

28th Nov between 10am and 11am *:
select maximum **two** submissions

*Central European Time - Barcelona, UTC +1h

FINAL results calculated over
the 100% of the test set
once the datathon is over
(28th Nov 11am)

How to submit results

Final results: Deadline **11am** on Sunday

The screenshot shows the NOVARTISDATATHON online interface. On the left is a dark sidebar with navigation options: Dashboard / Panel, Checkpoint, Final - TOP 10, Final - TOP 5, Graph, and Team Submissions. The main content area has a breadcrumb trail: HOME > Dashboard / Panel > Checkpoint. Below this is a blue header for the 'Ranking' table. The table has four columns: Team, Confidence Error, and Ranking. The first four rows are visible, showing teams Team2 through Team5. Annotations include an orange box around the 'Final - TOP 10' menu item with an arrow pointing to the table, and a green box around the 'Final - TOP 5' menu item with an arrow pointing to the table. A large green arrow points from the 'Top 10 on Prediction Error' text to the 'Team3' row.

Team	Confidence Error	Ranking
Team2	258.6273061900464	1
Team3	487.78542662934007	2
Team4	514.2623268841542	3
Team5	528.1731642285866	4

Submit presentation & code TOP5

4th edition
The **financial challenge** of the year
NOVARTISDATATHON
online

The screenshot shows the Microsoft Teams interface for the 'Novartis Datathon' team. The left sidebar contains navigation icons for Activity, Chat, Calendar, Teams, Assignments, Who, Tasks by PL..., Apps, and Help. The main area displays the 'General' channel. At the top, the 'Files' tab is selected. Below the tab, there are action buttons: '+ New', 'Upload', 'Sync', 'Copy link', 'Download', 'Open in SharePoint', and 'All Documents'. The breadcrumb path is 'Documents > General > presentations'. A red arrow points to a file named 'template_final_presentation.pptx' in the file list. The file list has columns for 'Name', 'Modified', and 'Modified By'. The file 'template_final_presentation.pptx' was modified 'A few seconds ago' by 'Mar Galofré Cardo'.

Name	Modified	Modified By
template_final_presentation.pptx	A few seconds ago	Mar Galofré Cardo

Submit presentation & code TOP5

The screenshot shows the Microsoft Teams interface. On the left sidebar, the 'Mentoring 1' team is selected. In the main workspace, the 'TEAM X' workspace is active. The 'Upload' button is highlighted in the top bar. Below the workspace name, there are two numbered boxes indicating the files to be uploaded:

- 1 Data_Novartis_Datathon-Results_Presentation_TeamX
- 2 Data_Novartis_Datathon-Final_Code_TeamX

The workspace also shows a 'Drag files here' prompt at the bottom.

Agenda



THU 25 November

17:00h – 18:00h | Kick-off

18:00h – ... | Case work



FRI 26 November

09:00h – 18:00h | Attendance of questions

09:00h – 12:00h | Mentoring

16:00h – 18:00h | Mentoring



SAT 27 November

09:00h – 18:00h | Attendance of questions

09:00h – 12:00h | Mentoring

16:00h – 18:00h | Mentoring



SUN 28 November

09:00h | Welcome and Jury introduction

09:00h – 11:00h | Mentoring, if necessary

10:00h – 11:00h | Final submissions

11:00h | Deadline Submit final csv

11:30h | Results

12:00h | Deadline to upload TOP5 presentation

13:00h – 14:30h | Finalists' presentations

14:30h – 15:00h | Jury deliberates

15:00h | Announcement of the Winners

*Central European Time - Barcelona, UTC +1h