



PaNOSC Closing Event

Paving the way towards the PaN FAIR Data Commons

29-30 November 2022

Grenoble - France

What PaNOSC changed for ESRF

Andy Götz

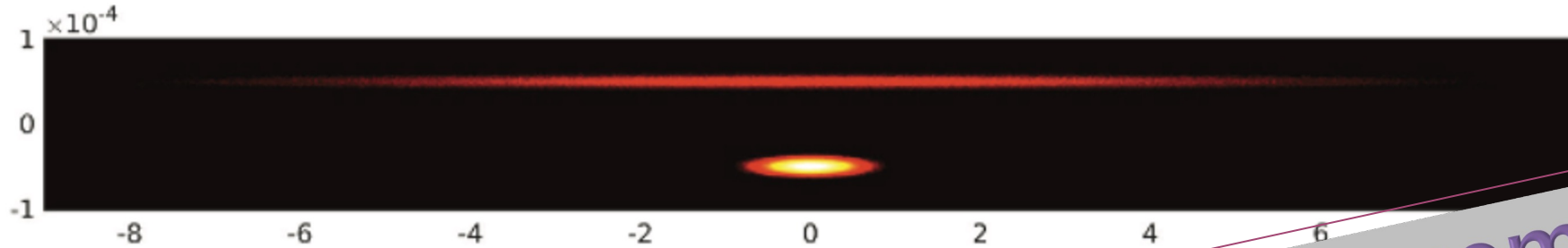
ESRF

30 November 2022



PaNOSC has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 823852

ESRF upgraded the source during PaNOSC



View of the X-ray beam before (top) and with ...

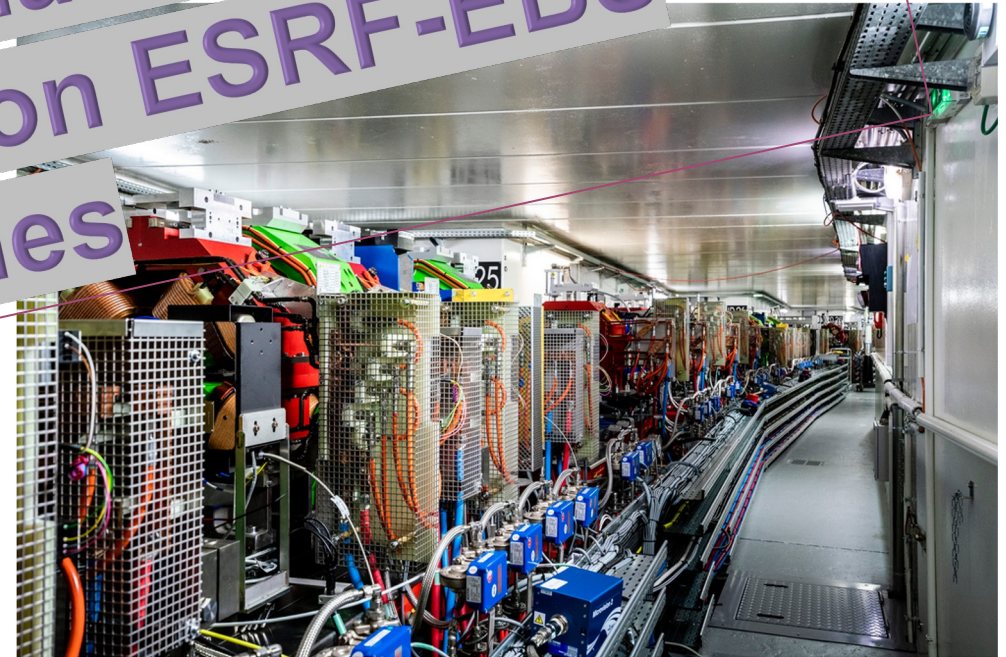
The challenge: building a new ...
within an existing ...

“The boss ...
old motor and put ...
Pantaleo Raimondi.

On **10 December 2018**, after 26 years of loyal service, one of the highest-performing X-ray sources in the world was shut down for 20 months. ... (<https://ebs.esrf.fr/2020/08/25/esrf-ebs-opens-to-users/>)

PaNOSC started 1 December 2018 ...

PaNOSC enabled FAIR data management
to be implemented on ESRF-EBS
beamlines



The new ESRF-EBS storage ring is based on a novel HMBA lattice design invented by ESRF Accelerator & Source director Pantaleo Raimondi. ESRF/S.Candé.

What PaNOSC changed for ESRF?

1. Making FAIR data a reality

2. Building the PaN EOSC

PaNOSC changed for ESRF

1. First draft of **FAIR Data Policy** (thanks to PaNOSC DP framework)
2. **Data Policy+data portal+e-logbook** on 42/44 beamlines (thanks to ESRF staff)
3. **Nexus/HDF5** on half of all beamlines (thanks to BLISS+NexusWriter+Lima)
4. **DMPs** implemented for all proposals (thanks to DS-Wizard)
5. **Data visualisation** in Jupyter + data portal + other web applications (thanks to H5Web)
6. **Jupyter-slurm** service used daily (thanks to jupyterhub-moss)
7. **VISA+CERNVMFs** deployed and being tested on beamlines (thanks to VISA)
8. **OASYS** training developed + implemented new algorithms (thanks to Vinyl)
9. **Search API** implemented and deployed (thanks to ICAT)
10. **Human Organ Atlas** deployed (thanks to PaNOSC search portal)
11. **Data transfer** solved for users (thanks to Globus + Aspera deployed)
12. **E-learning** platform ready to be adopted (thanks to e-learning.e-training.org)

→ Open Science and FAIR data became the new normal to aim for (thanks to **EOSC**)

Data curated in ICAT @ ESRF over last 12 months

44 beamlines have the data policy installed and 42 are collecting metadata + data :

volume produced from 2022-01-01 to 2022-12-01 in GB

	bm01	bm02	bm05	bm07	bm08	bm16	bm18	bm20	bm23	bm28	bm29	bm30	bm31	bm32	cm01	id00	id01	id02	id06hxm	id06lvp	id09	id10	id11	id12	id13	id15a	id15b	id16a	id16b	id17	id19	id20	id21	id22	id231	id232	id24	id26	id27	id28	id30a1	id30a3	id30b	id31	id32
24-11-2022	298.6	0.31	1997.0		0.013	0.14	44246.8	0.0023	0.75		38.7	0.011	6.8	13.9	17846.7	14.7	243.6	249.3	7.6		2.7	100.3	4743.7	0.012	1412.3	354.0	165.8	2367.9			0.55		9.9	4485.8	3272.5	2142.6	3.3	3.6	565.6		2277.7	5043.5	1175.3	704.7	0.44
25-10-2022	3844.7	110.0	12528.3		0.062	0.00007	89225.0		12.8		190.7	0.12	442.4	1566.0	88745.7	0.43	902.9	1437.4			732.8	3453.4	25345.1	0.10	21752.0	15052.4	1533.9	770.5		8488.6	41430.3		24.3	18450.8	10661.6	9343.1	11.7	19.0	8245.3	1.4	10440.9	3016.3	3389.8	4631.4	128.7
25-09-2022	3125.0	138.3	17657.8		0.025	0.41	89225.0	0.00065	1.1	0.000019	210.2	0.11	6.0	272.1	37517.7	0.084	2078.0	516.1	7371.8		11.8	613.7	21012.2	0.011	7957.1	4313.9	452.1	0.0044		27.0	32941.2		18.6	11160.5	5594.1	3099.9	31.8	9.0	610.9		2649.6	595.8	3330.6	14151.9	150.1
26-08-2022	367.10	0.000017	2006.0		0.18	0.076	84584.9		6.9		98.4	0.0045	2.8	1275.4	62422.8		1230.6	1418.5	6509.2		69.1	283.1	32954.7	0.054	32462.7	14482.7	2894.1	0.012	1530.2		11977.3		35.9	13128.7	8669.3	7660.8	0.50	32.2	6072.6		9019.2	2606.6	6915.1	7990.6	333.6
27-07-2022			503.9						0.21		3.3			38.7		63.3	0.0054	55.8	786.2		311.8	33.3	1156.8		132.0	43.3	91.4	0.00078		2035.1		2.5	1037.1	33.6	371.1	0.0072	2.0	169.8		1076.5	4.2		0.19	0.057	
27-06-2022	729.6	116.5	27711.0		0.25	0.13	42205.0		4.1		187.5	0.057		3568.0	91728.3	0.68		2321.4	2612.3	242.6	3079.8	1428.9	52816.1	0.078	10398.4	28876.1	684.7		1209.8	42756.5		23.5	7022.4	9170.3	19.3	17.7	17.9		281.8	5838.8	1441.3	14403.5	52626.1	232.9	
28-05-2022	2011.3	89.2	6708.8	11.2	0.027	0.00023	33926.4		3.3	0.0014	310.0	0.082		3153.9	92975.6	0.0037	881.3	0.17	1216.9	161.4	131.9	2933.1	10723.7		46262.0	20586.0	1168.9	2829.6	24203.0		13825.0		18.8	10471.3	7944.4	723.1	2.1	9.0	8806.7	349.0	9663.7	1921.7	9290.7	382.7	2010.8
28-04-2022	576.9	77.5	1569.9	321.7	0.00600	0.00014	9744.5		1.5		194.6			1108.1	10142.5	0.00029	859.6	0.12	4730.6		1.2	203.7	6282.9	0.011	2482.8	12376.5	643.7	4505.8	10814.7		56479.6		10.7	8584.5	3740.2	3786.1	1.3	10.4	3165.6	167.9	2633.6	1863.5	10263.6	174.9	49.3
29-03-2022	4646.1	1.3	8153.9	586.0	0.026	0.093	79061.8	0.44	7.6		321.4	0.11		719.6	72015.5	91.7	1561.3	19.6	4360.9	391.0		1093.8	8840.8	0.071	23521.6	329.3	705.8	7723.7	24500.3		81839.4		61.6	24784.0	21692.6	6319.6	22.9	14.5	1372.7		9408.4	25102.2	28582.3	5755.2	97.6
27-02-2022	3879.7		3337.2	186.30	0.000073	0.091	15905.4		1.3		64.7	0.12		1.00	87894.1	0.13	567.9	2822.8	1989.5	48.4		287.6	11813.8	0.015	2519.2	3427.2	352.0	9491.1	6300.5	0.00086	4504.1		24.3	8783.7	4527.3	4443.5	2.5	14.3	1883.1		6926.6	3042.4	8332.7	3898.6	238.6
28-01-2022	56289.8		4875.9	158.8		0.024	5381.8		2.5		159.1	0.042		28.7	61048.0	1.4	3416.4	1496.8	1798.2	85.1	197.5	299.0	42252.0	0.048	7324.3	24983.3	745.9	10507.3	17842.4	0.0087	12864.10	0.0013	18.4	16998.4	8419.7	5058.4	1.2	28.5	1181.9		11228.4	3188.0	9888.8	777.6	1207.9
29-12-2021	73.6	475.7	18124.7	82.7		0.00054	7145.6		13.8		119.5	0.070			17104.0	0.022	1020.5	377.0	684.8		1.3	35.0	4844.5	0.018	6498.4	354.6	420.1	2715.8	1120.8	0.011	13694.9		4.8	4343.6	2856.4	3136.3		7.1	0.0095		4012.6	1865.8	6578.6	290.3	188.6

PaNOSC is PEOPLE @ ESRF

1. First draft of **FAIR Data Policy** (thanks to **Rudolf**)
 2. **Data Policy+data portal+e-logbook** on 42/44 beamlines (thanks to **Alex+Marjolaine**)
 3. **Nexus/HDF5** on half of all beamlines (thanks to **Wout+Matias**)
 4. **DMPs** implemented for all proposals (thanks to **Marjolaine**)
 5. **Data visualisation** in data portal + other web applications (thanks to **Loic+Axel+Thomas**)
 6. **Jupyter-slurm** service used daily (thanks to **Thomas+Loic**)
 7. **OASYS** training+implemented new algorithms (thanks to **Manolo+Juan+Melissa**)
 8. **VISA+CERNVMFS** deployed and being tested on beamlines (thanks to **Antoine+Aidan+Cedric+Francois+Jean-Francois+Jordi**)
 9. **Search API** implemented and deployed (thanks to **Alex+STFC team**)
 10. **Human Organ Atlas** deployed (thanks to **Axel+Axel+Jean-Francois**)
 11. **Data transfer** solved for users (thanks to **Jean-Francois+team**)
 12. **E-learning** platform learning material (thanks to **Marius+Manolo+Andy**)
- **Open Science and FAIR data** (thanks to **ESRF management**)

What is coming after PaNOSC @ ESRF

1. Adoption of FAIR Data Policy (Andy+Jean-Francois+ESRF management)
 2. CTS certification + Data Policy implemented on 44/44 beamlines (ESRF staff)
 3. Nexus/HDF5 enhanced definitions on all beamlines e.g. NxMx+IUCr (ESRF staff)
 4. Useful DMPs for users (Marjolaine+User office+Beamline staff)
 5. Data visualisation in data portal of processed data (Axel+Loic+Thomas)
 6. Jupyter-slurm service continues (Thomas+Loic)
 7. VISA+CERNVMFS opened to users + beamlines (Jean-Francois+team)
 8. OASYS training + instrument database (Manolo+Juan)
 9. Search API+scoring improvements (Alex+Marjolaine+Axel)
 10. Human Organ Atlas enhanced (Axel+Claire+Alex+Marjolaine)
 11. Paleontology + materials science repositories (Marjolaine+Alex+Paul)
 12. E-learning platform training courses (ESRF staff)
- Open Science policy (ESRF management+Jean-Francois+Andy)
- INFRA-EOSC-01-01 collaboration with science clusters (Andy+Jordi+Jean-Francois)



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Thank you!

Andy Götz (PaNOSC coordinator) + **Mincka** (his cat)!



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