

ANALYSIS OF THE NEEDS AND OPTIONS FOR AN ADDITIONAL FCC POLE

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Leslie ALIX (CNRS/CERN)

Johannes GUTLEBER (CERN)



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Context of the analysis

What is a pole?

- A place where FCC participants can meet and work together
- A new activity center in addition to Meyrin and Preveessin sites
- A building with offices
- A campus
 - with offices
 - with meeting rooms
 - with catering and accommodation services

Why?

1. Broad geographical extent of the research infrastructure leads to new questions about the operation
2. **Sustainable territorial integration of the research infrastructure** (essential for obtaining the support of the Host States)



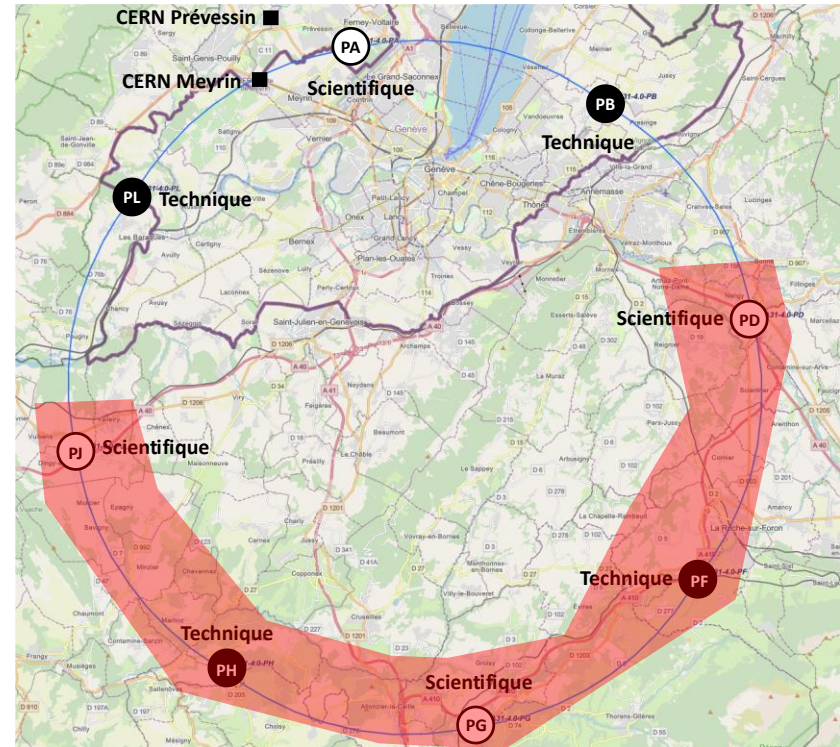
Analysis on the needs and options of an additional FCC pole

Structure:

Study done on the eastern/southern part of the FCC:

- I. **Assumptions** about the personnel potentially linked to this pole
- II. Definition of the requirements and criteria to be considered
- III. Presentation of the potential locations and socio-economic environment
- IV. Establishment of a multicriteria analysis to determine the best location option
- V. Assumption on the surface and cost of such a pole

The aim is to provide useful information for determining the location of a pole if one is created



I. Considerations for analysing the number of people potentially associated with this pole

Data on participants in a research programme :

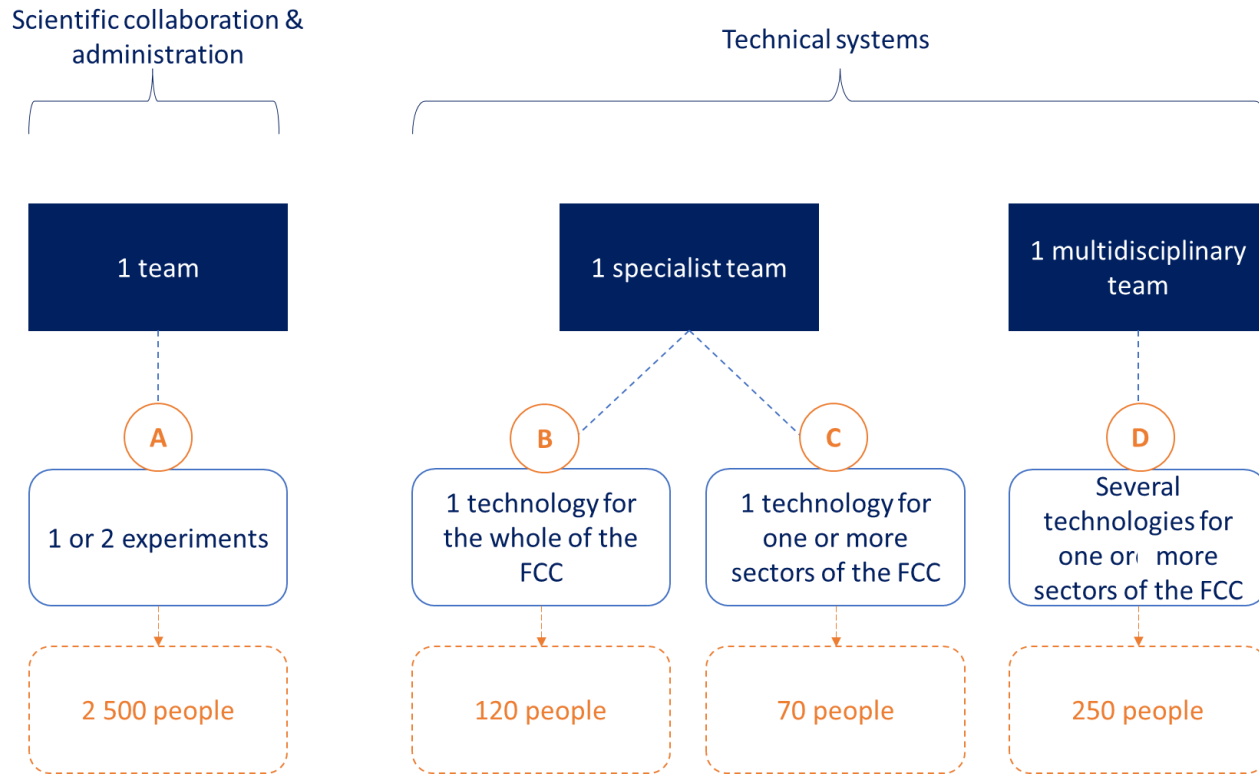
- Research programme structure and operation
- Participants structure and profile
- Participants activities in the research programme
- Presence onsite
- Location of people
- Location of residence

The figures are based on the current LHC programme. The concept is to date undefined, and the figures set out in the analysis are only **assumptions for the order of magnitude**

→ Allows to make assumptions about the number of people potentially associated with this pole

→ 4 possibilities

I. Assumptions on the number of people potentially associated with the pole



II. Definition of the requirements and criteria to be considered for the multicriteria analysis

1. Campus facilities:

- Offices
- Meeting rooms
- Conference rooms
- Accommodation
- Cafeteria
- Restaurant
- Emergency services
- Visitor center

2. Other criteria:

- Proximity to PH site (RF systems)
- Proximity to PG (scientific site)
- Proximity to other sites
- Proximity to public transportation
- Proximity to universities
- Proximity to companies

3. Weighting:

Number	Criterion	Weighting
1	Proximity to site PH	0.18
2	Proximity to site PJ	0.08
3	Proximity to site PG	0.1
4	Proximity to site PF	0.03
5	Proximity to site PD	0.08
6	Proximity to site PB	0.15
7	Road access	0.1
8	Public transport	0.1
9	Services	0.05
10	Conference facilities	0.01
11	Universities	0.01
12	Emergency services	0.1
13	Contractors	0.01
Total		1

III. Potential locations

1. Scientific site PG, Charvonnex:
→ Option 1 (O1)
2. Groisy railway station:
→ Option 2 (O2)
3. LAPP/CNRS campus, Annecy:
→ Option 3 (O3)
4. Scientific site PJ, Dingy-en-Vuache/Vulbens:
→ Option 4 (O4)
5. Commune of Éteaux/La Roche-sur-Foron:
→ Option 5 (O5)
6. Scientific site PD, Nangy/Contamine-sur-Arve/Fillinges:
→ Option 6 (O6)



III. Criteria analysis: PD - Nangy

1. Location profile + surroundings



2. Score for each criterion

Criterion	Comments	Value
Proximity to technical site PH	Reasonable (40.3 km – 31 min)	2
Proximity to scientific site PG	Borderline acceptable (28.2 km – 24 min)	3
Adequate proximity to the other sites	Adequate distance from all sites: - PA (38 km – 34 min) - PB (14.6 km – 18 min) - PD (same location) - PF (14.5 km – 12 min) - PJ (38.4 km – 34 min) - PL (41.2 km – 42 min)	4
Proximity to public transport and accessibility	Road network: D903 – D1205 – A40 Rail network: Reignier station (Léman Express) (5.6 km) – Annemasse station (Léman Express) (11 km) – La Roche-sur-Foron station (Léman Express) (10 km) Bus network: stop in Contamine-sur-Arve: Hôpital Findrol (400 m); TAC route 5, TAD, Proxim'iTi route 274	4
Proximity to services, amenities and shops	Near the industrial estates in Findrol, small number of businesses: restaurants and a bakery "Entre Parenthèse" restaurant at the hospital (CHAL) Ibis Budget Nangy (2 stars), Campanile Findrol Savoie Léman (3 stars) Post office	5
Proximity to conference centres	No conference centres in the immediate vicinity Roch'Expo (12.3 km)	3
Proximity to universities	No universities in the immediate vicinity UNIGE, HEPIA (17 km)	3
Proximity to emergency services	Pays Rochois fire and rescue centre in Éteaux (12.9 km) Alpes-Léman Hospital (CHAL) (400 m)	4
Proximity to contractors	Near the Arve Valley Near the industrial estates in Annemasse and Ville-la-Grand	5

3. Opportunities and synergies

- Synergies to create between the pole and the territory
- Results of the discussions with the local authorities

III. Pros and cons of each location

Option	Advantages	Disadvantages
Option 1 Site PG – Charvonnex / Groisy	<ul style="list-style-type: none"> • Support for the opportunity to accommodate a pole and develop the local area in synergy • Proximity of LAPP / CNRS and the university campus • Scientific site PG will host a large experiment • Good location with respect to the different FCC sites • Groisy railway station 	<ul style="list-style-type: none"> • Few services in the immediate vicinity
Option 2 Groisy	<ul style="list-style-type: none"> • Support for the opportunity to accommodate a pole and develop the local area in synergy • Land available • Proximity of LAPP / CNRS and the university campus • Proximity of scientific site PG hosting a large experiment • Good location with respect to the different FCC sites • Very close to Groisy railway station 	<ul style="list-style-type: none"> • Few services in the immediate vicinity
Option 3 LAPP Annecy	<ul style="list-style-type: none"> • Support from Grand Annecy for the opportunity to accommodate a pole and develop the local area in synergy • Presence of LAPP/CNRS and the university campus, plus USMB and other universities • Land already available • Proximity of scientific site PG • Urban commune • Railway station • Local services in Annecy • Good public transport offer • Conference centres 	<ul style="list-style-type: none"> • Few services on the campus but these are being developed, particularly in relation to the Parc des Glaisins industrial estate • Distant from the other sites

III. Pros and cons of each location

Option	Advantages	Disadvantages
Option 4 Site PJ – Dingy-en-Vuache / Vulbens	<ul style="list-style-type: none"> • Support for the opportunity to accommodate a pole and develop the local area in synergy • Development under way in the local area: a new secondary school was recently opened, and the industrial estate is being developed • Land available on-site PJ • Scientific site hosting an experiment 	<ul style="list-style-type: none"> • Distant from sites PB, PD and PF • Rural commune • Few services in the immediate vicinity
Option 5 La Roche-sur-Foron	<ul style="list-style-type: none"> • Urban area • Conference centre • Local services • Near the Arve Valley 	<ul style="list-style-type: none"> • Technical site not suitable for development • Site PF is a long way from the commune of La Roche-sur-Foron • The municipal council has no known ambitions to develop the site • No land available as far as we know
Option 6 Site PD – Nangy	<ul style="list-style-type: none"> • Near the Arve Valley • Proximity of the hospital • Local services • Scientific site hosting an experiment • Support from the Departmental Council for the opportunity to host a pole and develop the local area in synergy 	<ul style="list-style-type: none"> • Distant from site PH • Rural commune • No identified land • The municipal council has no known ambitions to develop the site

IV. Multicriteria analysis and results

Number (i)	Criterion	Weight (W)	Option 1		Option 2		Option 3		Option 4		Option 5		Option 6	
			PG (Charvonnex)		Groisy		LAPP/CNRS		PJ (Vulbens)		La Roche-sur-Foron		PD (Nangy)	
			Value (V)	Score	Value (V)	Score	Value (V)	Score	Value (V)	Score	Value (V)	Score	Value (V)	Score
1	Proximity to site PH	0,18	3	0,54	3	0,54	2	0,36	3	0,54	2	0,36	2	0,36
2	Proximity to site PJ	0,08	1	0,08	1	0,08	1	0,08	5	0,40	1	0,08	2	0,16
3	Proximity to site PG	0,10	5	0,50	5	0,50	4	0,40	1	0,10	4	0,40	3	0,30
4	Proximity to site PF	0,03	4	0,12	4	0,12	3	0,09	1	0,03	5	0,15	4	0,12
5	Proximity to site PD	0,08	3	0,24	3	0,24	2	0,16	2	0,16	4	0,32	5	0,40
6	Proximity to site PB	0,15	1	0,15	1	0,15	1	0,15	1	0,15	3	0,45	4	0,60
7	Road access	0,10	4	0,40	4	0,40	4	0,40	4	0,40	4	0,40	5	0,50
8	Public transport	0,10	3	0,30	4	0,40	5	0,50	2	0,20	4	0,40	3	0,30
9	Services	0,05	2	0,10	2	0,10	5	0,25	2	0,10	5	0,25	5	0,25
10	Conference facilities	0,01	3	0,03	2	0,02	5	0,05	1	0,01	5	0,05	3	0,03
11	Universities	0,01	3	0,03	2	0,02	5	0,05	1	0,01	1	0,01	2	0,02
12	Emergency services	0,10	5	0,50	4	0,40	5	0,50	5	0,50	5	0,50	4	0,40
13	Contractors	0,01	4	0,04	4	0,04	5	0,05	3	0,03	5	0,05	5	0,05
	Total	1,00	41	3,03	39	3,01	47	3,04	31	2,63	48	3,42	47	3,49

IV. Multicriteria analysis and results

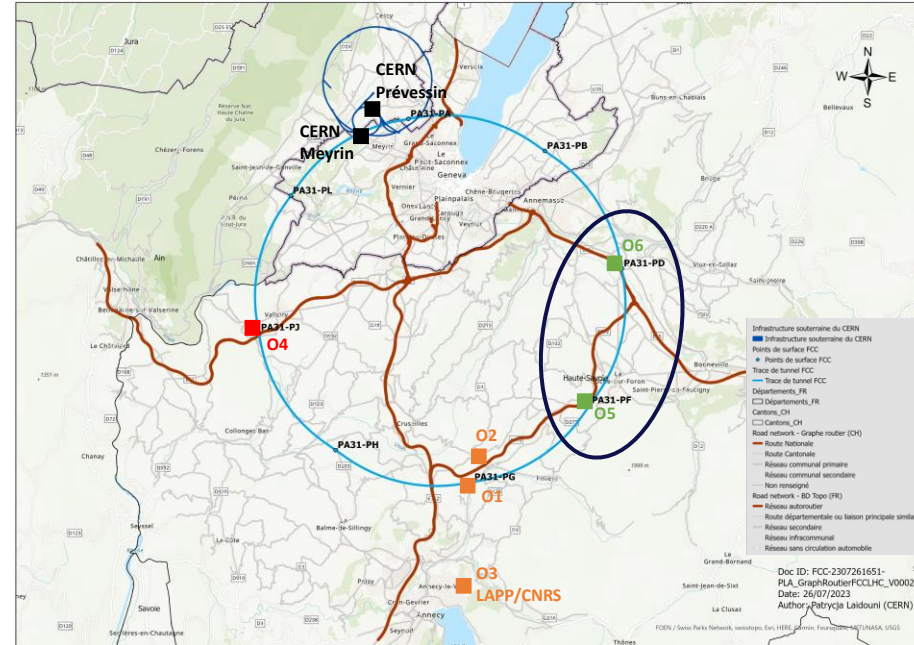
Option	Location	Ranking	Score
Option 6	Site PD – Nangy	1	3.49
Option 5	La Roche-sur-Foron	2	3.42
Option 3	LAPP Annecy	3	3.04
Option 1	Site PG – Charvonnex	4	3.03
Option 2	Groisy	5	3.01
Option 4	Site PJ – Vulbens	6	2.63

V. Assumptions on the surface and cost

Possibility A	Possibility B	Possibility C	Possibility D
1 team (scientific collaboration & administration)	1 specialised team	1 specialised team	1 multidisciplinary team
1 or 2 experiments	1 technology for the whole of the FCC	1 technology for one or more sectors of the FCC	Several technologies for one or more sectors of the FCC
2500 people	120 people	70 people	250 people
37500 m ²	1800 m ²	1100 m ²	3800 m ²
93.8 MEUR	4.5 MEUR	2.8 MEUR	9.5 MEUR

Conclusions

- Most appropriate location is Nangy
- Second one is la Roche-sur-Foron
- The location will be influenced by local stakeholders' preferences
- Site presence can be between 100 and 2500 people
- Surface requirements between 1000 m² and 4 ha
- Investment cost between 3 and 94 MEUR
- Strong interest from Haute-Savoie to create added value for the development of the region with the arrival of the FCC, notably in the area of highly qualified personnel, education, business services that would be complemented by further territorial developments and services for the people on the activity pole
- **Nothing is decided**





Thank you
for your attention.