



# CLIC Implementation studies: Civil Engineering and Services

WP: IS-CES Workpackage leader: J. Osborne	Purpose/Objectives/Goals	Deliverables (incl. approx. resource estimate)	Schedule
Task 1: Site studies	Develop site criteria, conduct geological investigations, optimize site layout & shaft positions	1. Establish site selection matrix, 2. Produce internal Siting Studies report, 3. Issue Siting Studies report to external authorities	Deliverable 1 mid 2012; deliverable 2 mid 2013; deliverable 3 end 2016
Task 2: Environmental Impact	Prepare Environmental Impact Study	1. Outline of Environmental Impact document, 2. Issue Environmental Impact document	Deliverable 1 mid 2012; deliverable 2 end 2016
Task 3: Services	Update technical definition of services	1. Electrical distribution 2. Cooling & ventilation 3. Handling & transport 4. Survey and alignment	All deliverables end 2016

<http://indico.cern.ch/categoryDisplay.py?categId=1882>

CERN support required from BE-ABP, EN-CV, EN-EL, EN-HE, EN-MEF, GS-SE

Lead collaborator(s): CERN (J.Osborne et al); FNAL (V.Kuchler); KEK (A.Enomoto), DESY (W.Bialowons), JINR (G.Shirkov)

Estimated resources (needed):	2012	2013	2014	2015	2016	Total
Material (kCHF)	100	100	100	100	100	500
Personnel (FTE)	2.5	3	3	3	3	14.5

Resource comment: material budget for external consultancy services (e.g. geologist, environmental expert, engineer & architect)



# CLIC Implementation studies: Project Implementation Plan

WP: IS-PIP Workpackage leader: Ph. Lebrun		Purpose/Objectives/Goals			Deliverables (incl. approx. resource estimate)		Schedule
Task 1: PBS/WBS	Update and maintain project PBS/WBS compatible with revised parameters and configuration in PP phase			1. First update of PBS/WBS for value estimate, 2. Final update of PBS/WBS for project submission		Deliverable 1 end 2013, deliverable 2 end 2016	
Task 2: Value estimate	Refine value estimates compatible with revised parameters and configuration in PP phase; conduct value engineering of critical cost drivers			Revised value estimates		End 2016	
Task 3: Schedule	Update and maintain general schedule			1. Updated general schedule, 2. Updated detailed schedules for system/component production		Deliverable 1 end 2013, deliverable 2 end 2016	
Task 4: Safety	Conduct preliminary safety assessment of project			1. Preliminary safety document; 2. Conduct safety hearings of critical systems, 3. Final safety document		Deliverable 1 end 2013, deliverable 2 2014-2015, deliverable 3 end 2016	
Task 5: Energy & power	Refine energy and power consumption estimates; identify and develop actions towards energy and power efficiency (e.g. load shedding, heat recovery)			1. Definition of operating modes influencing power consumption, 2. Updated power & energy consumption estimates		Deliverables 1 end 2013, deliverable 2 end 2016	
CERN support required from BE-ABP, EN-CV, EN-EL, EN-HE, EN-MEF, GS-SE, HSE							
Estimated resources (needed):	2012	2013	2014	2015	2016	Total	
Material (kCHF)	50	50	50	50	50	250	
Personnel (FTE)	2.5	2.5	3	3.5	3.5	15	