



May 2013 status summary of LRP new projects

What	When	Who	New \$C	Share	Funds	Notes
TMT	2013-2020	20% partner	~\$300M	20%	2014 budget	MC for 2014 budget
SKA	2016-2024	Partner	\$<30M	10%?	Current	+\$150M? to complete in 2024
CASTOR	2012-2020	CSA + XSA	\$100m ?	33%?	CSA	Tech + science studies; partners
Euclid	2016-??	ESA	(\$10-25m)	~5%	CFHT, CADC	Ground survey contrib only
CFHT	2013-20??	CFH	- -	42%	Current	Short-term improvements
ngCFHT	2013-2022?	~6 partners	\$34m?	20%	Current +	Partnership needed
CCAT	2013-	Consortium	\$21-35M	15-25%	Current +	University funds, CFI?
CHIME	2013-	CFI	\$10M	100%	CFI	DRAO site start 2013
Arctic	2012-2020	Canada	?	<=100%	Univ + NRC	Still exploratory, poss partners?
SPICA	2013-2022	JAXA	\$6-20M	?	? (CSA)	Hardware for upper price
Astro-H	2012-2015	JAXA	\$5M	5%	Current	Underway
WISH, WFIRST	2016 - ?	JAXA, NASA	?	?	? (CSA)	Poss DE missions
Balloon, Microsat	2012-2020	CSA, CNES	\$10M	100%	Current	Continuing

Funds indicated all spread over several years – details differ.
 Amounts secured or in present budgets. Space and Ground-based

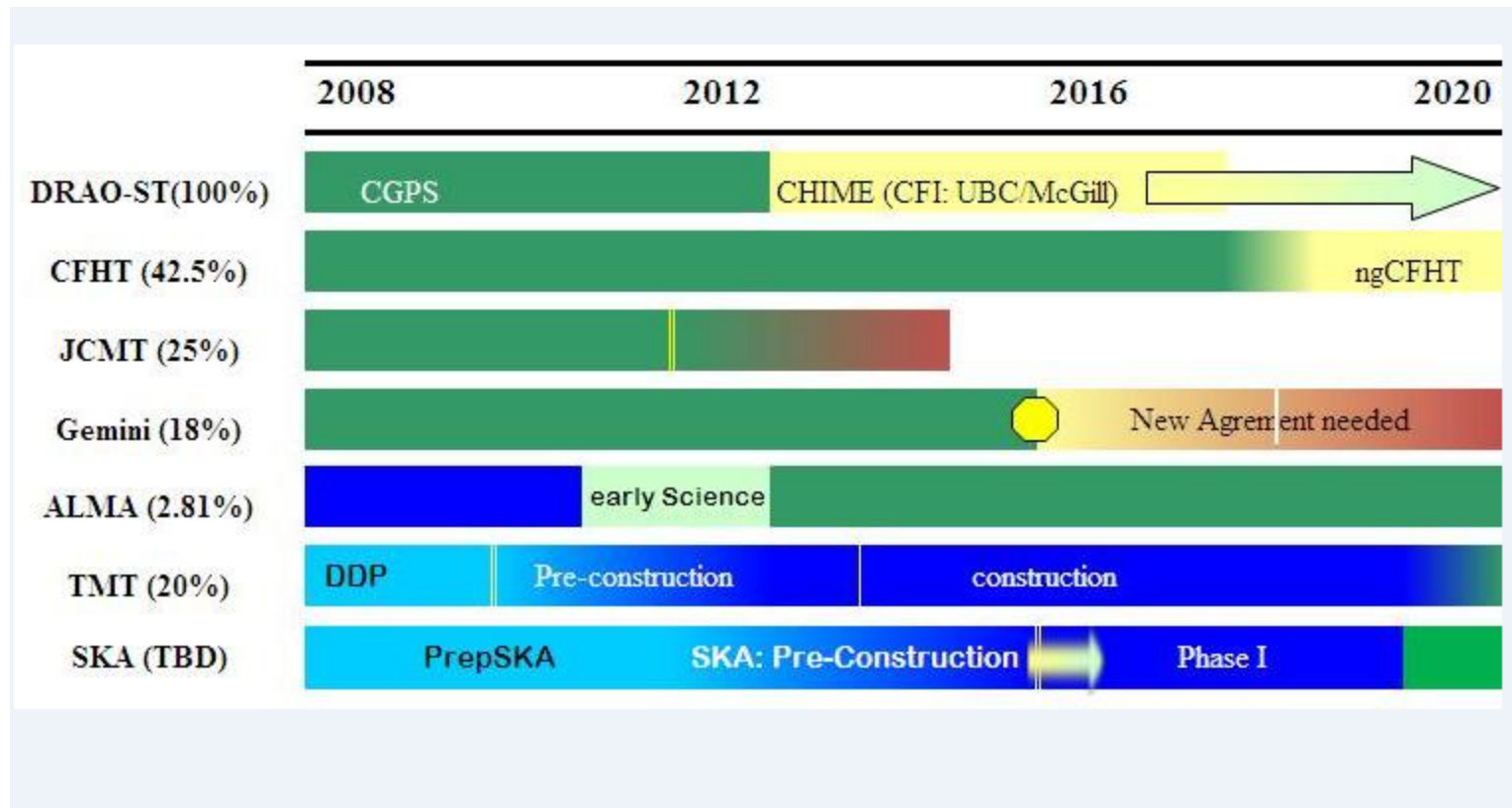


TMT status summary

- Site is approved for construction
- NSF selected TMT for support: no major funds to 2020
- Partners now Canada, UC, Caltech, China, Japan, India, Yale
- Master agreement between partners is in place
- Canadian board members Carlberg, Fahlman, Seaquist
- Canada nominal share ~20%
- Funding at different stages/levels among partners
- Memorandum to Cabinet (MC) being prepared for fall 2013
- ACURA working with NRC to prepare this: 'business plan'
- Construction funds needed for spring 2014: federal budget
- Communication and lobbying with Government by ACURA and TSA
- Total Canadian request ~\$300m over 9 years
- Science forum in Hawaii this July: broader US participation



NRC Ground-based operations timeline





Dark Energy space mission

- LRP places \$100m-level DE mission participation as top priority
- Only current DE mission under way is Euclid
- CSA and science teams have worked to join Euclid for several years
- Lack of CSA funding has lost us all opportunities for hardware contribution
- Last way to join is by providing the ground-based Northern sky imaging survey
- Plan evolved with CSA, NRC (CADC), Compute Canada, to join PanSTARRS
- Plan abandoned in early 2013 for funding reasons: no CSA \$\$, PS budget
- New idea to use CFHT Megacam Red for Euclid survey
- Details not in place but up to 40 scientists may join Euclid, if we do it all
- Euclid team totals some 1200 now – maybe 50% scientists
- NRC unable to support Euclid data processing without CSA funding
- Prospects for joining Euclid are problematic and far below LRP level
- Future space DE possibilities are CASTOR, WISH, WFIRST. None yet under way.



CFHT issues at a glance

- UKIRT up for grabs. CFHT plan to take it on
 - China wishes to join CFHT
 - ngCFHT has wide international interest: potential partnership of ~6
 - Fastest possible ngCFHT has completion by 2022; CFHT down 2018
 - ngCFHT needs office to move partnership forward: significant challenges
 - CFHT as-is has limited long-term capability: [what do we want in 2025?](#)
 - UKIRT would allow observation post current-CFHT
 - Spirou might go on UKIRT
 - Short-term improvements proposals and selection this year
 - 'Megacam Red' upgrade would allow new surveys: faster red-CCDs
 - Other proposals are being submitted
-
- Euclid survey with u-band needs 5? years full time
 - That is argued to take 10+ calendar years, with PI and other use.
 - Commitment to such a survey may jeopardize ngCFHT
 - SAC and BOD need to define the way forward for next decade

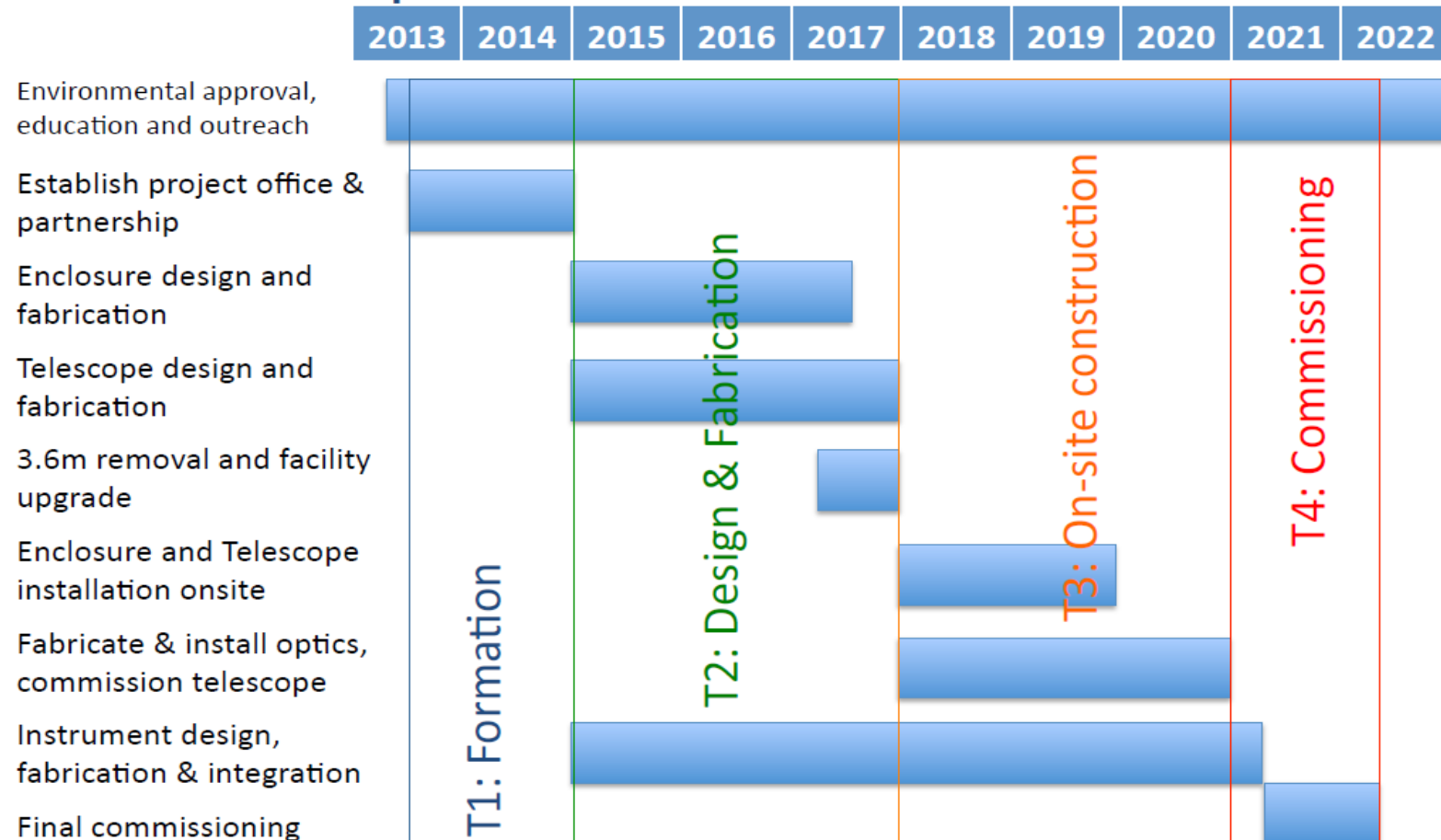


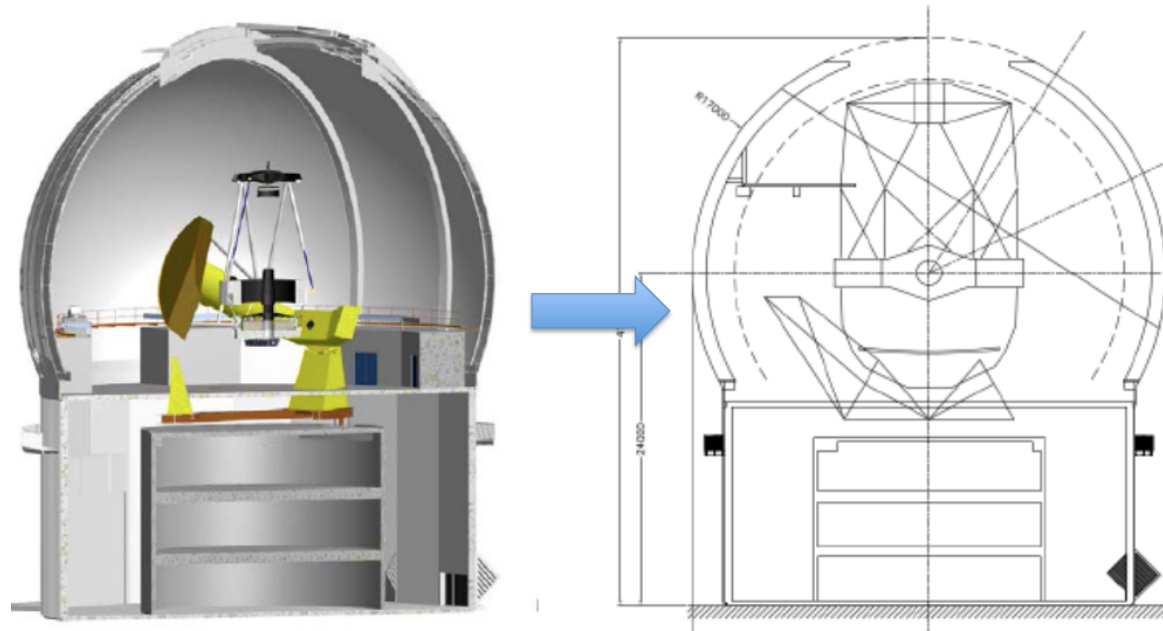
ngCFHT optimum schedule



10m telescope with wide-field 3000 MOS capability

Different phases of transition to 10m MOS





(\$206.3M(2012), including contingency)

Year	Project Office	ENC Design	TEL Design	De-const	On-site	M1	SW	INST	Re-dev	Totals
2013	0.5									0.5
2014	1.25									1.25
2015	1.75	4.8	5					13.8		25.35
2016	1.9	4.8	5					13.8		25.5
2017	1.9	2.4	4.7	9.3			3.2	13.8		35.3
2018	1.9				16.1	6.5	3.2	13.8	2	43.5
2019	1.9				16.1	6.5	3.2	13.8	2	43.5
2020	1.9					6.5	3.4	13.6	3	28.4
2021									3	3.0
Total	13	12	14.7	9.3	32.2	19.5	13	82.6	10	206.3



LRPIC mandate

- advise the CASCA Board and the Coalition on the impact of changes/development/evolution in the activities pertaining to the projects identified in the LRP2010 recommendations;
- advise the CASCA Board and the Coalition on the appearance of new major projects that may offset the balance of the current plan by bringing major scientific advantages to the Canadian astronomical community

In this regard, LRPIC note the following developments

- 1.ngCFHT has evolved considerably since the LRP into a major new initiative
- 2.Possible Euclid participation has fallen far below level indicated in the LRP
- 3.Euclid plan now is at the cost of CFHT observing and future: no CSA funds

Full LRPIC and GAC statements on the CASCA web page