wSMA Upgrade Program

- Program has three major components
 - 1. IF/LO transport system upgrades to accommodate 4 wide bandwidth IFs for dual pol, dual receiver operation
 - 2. New receiver system, with new cryostat and receiver inserts
 - 3. Add additional correlator capacity on top of 4Q SWARM to handle more IF from new receivers
- Propose to carry out IF/LO transport upgrade first in 2017, as it can go ahead after a short development period using off-the-shelf hardware
- Receiver development will go ahead in parallel with this through 2017
- Will then carryout Receiver System prototype deployment and field testing in early 2018 before starting Receiver System production phase in mid 2018
 - New receivers will be compatible with old receiver systems for most observations, so prototypes will stay in field
- Final Receiver System deployment in 2019, alongside correlator upgrades

wSMA Project Timeline



Blue – development

Yellow/Orange – production and integration

Green – deployment with operational impact.

Budget and Funding Profile

Item	Cost (k\$)	FY2017	FY2018	FY2019
Core Cryostat	\$2,087	\$696	\$892	\$499
Core Receivers	\$1,290	\$258	\$516	\$516
Core LO Units	\$894	\$179	\$358	\$358
Signal Transport + IF system	\$1,100	\$560	\$200	\$340
Electronics & Control	\$390	\$78	\$156	\$156
SIS mixer & clean room fab	\$300	\$100	\$200	\$0
Antenna Cabin Prep	\$400	\$0	\$200	\$200
SWARM Expansion	\$1,000	\$0	\$0	\$1,000
Total (k\$)	\$7,461	\$1,870	\$2,522	\$3,069