WP #	WP Title	FTE V1	FTE V2	FTE V3	VDFS ESO factor 0-4	VDFS FTE V1	VDFS FTE V2	VDFS FTE V3	VISTA commissioning	
1	**ESO VISTA software deliverables and documentation**	**0.5**	**0.5**	**0.5**	**4.0**	**0.5**	**0.5**	**0.5**	**0.25**	
1.1	DFS user requirements document									
1.2	Data reduction specification									
1.3	Calibration plan document for ESO									
1.4	Specification of calibration procedures for ESO									
1.5	Interface control document ESO/VPO									
1.6	Instrument specification and interface documents									
1.7	Delivery software modules Exposure Time Calculator									
1.8	Liase with VISTA IR camera development team									
1.9	Development of DQC measures									
2	**Management and Definition of Responsibilities**	**0.4**	**0.2**	**0.2**	**2.0**	**0.2**	**0.1**	**0.1**	**0.05**	
2.1	Report to VISTA Board, GSC									
2.2	Interface Control Document between CASU and JAC									
2.3	Interface Control Document between CASU and WFAU									
2.4	Define data structures and FITS headers									
2.5	Define observing protocols									
2.6	Liaise with UKIDSS & JAC on observing strategy									
2.7	Liaise with UKIDSS & JAC on survey planning									
2.8	Liaise with UKIDSS & JAC on survey progress database									
2.9	System Documentation									
6	**Run Standard Pipeline / Experiment for VISTA**	**0.0**	**0.9**	**1.0**	**2.0**	**0**	**0.45**	**0.5**	**0.25**	
6.1	Ingest and verify data									
6.2	Update master calibration frames									
6.3	Monitor detector performance									
6.4	Oversee standard processing									
6.5	Astrometric calibration									
6.6	Photometric calibration									
6.7	Verify science products and monitor DQC measures									
6.8	Monitor product data transfer to WFAU									
7	**Development Work for Summit Pipelines**	**0.2**	**0.1**	**0.2**	**2.0**	**0.1**	**0.05**	**0.1**	**0.05**	
7.1	Interface test pipelines to observing systems									
7.2	Implement WFCAM/VISTA pipelines at summit									
7.3	Documentation of interfaces									
7.4	Upgrade and maintain summit pipelines									
8	**Development and Testing of Standard 2D Processing**	**0.4**	**0.2**	**0.2**	**3.0**	**0.3**	**0.15**	**0.15**	**0.08**	
8.1	Further development of standard pipelines									
8.2	Liaison with WFCAM/VISTA development teams									
8.3	Partake in planning commissioning observations									
8.4	Participate directly in commissioning									
8.5	Tuning pipeline during commissioning and after									
8.6	Documentation of 2D processing software									
8.7	Comparison between automated and manual data products									
9	**Development and Testing of Standard Catalogue Products**	**0.5**	**0.2**	**0.2**	**1.0**	**0.125**	**0.05**	**0.05**	**0.05**	

9.1	Add in new measures requested									
9.2	Refine astrometric calibration model									
9.3	Generate model simulations of expected data									
9.4	Assess catalogue parameter reliability									
9.5	Intercomparison of catalogue products with other packages									
9.6	Completeness and error estimates									
9.7	Documentation of catalogue software and products									
11	**Photometric Standards and Calibration**	**0.2**	**0.3**	**0.2**	**3.0**	**0.15**	**0.225**	**0.15**	**0.08**	
11.1	Agree on primary standards									
11.2	Choose secondary standard fields									
11.3	Take part in commissioning observations									
11.4	Reduce data, compute zero points and colour equations									
11.5	Update, maintain and extend secondary standards system									
11.6	Investigate photometric calibration field systematics									
11.7	Assess extinction monitoring methods and develop measures									
12	**Further Development of DQC Measures at Summit and Cam**	**0.2**	**0.2**	**0.2**	**2.0**	**0.1**	**0.1**	**0.1**	**0.05**	
12.1	Develop extra systematic noise measures									
12.2	Refine current measures for WFCAM/VISTA data									
12.3	Implement 2MASS - cf. for throughput measures									
12.4	Master calibration frames for detector monitoring									
		3.9	**4.2**	**5.7**		**1.48**	**1.63**	**1.65**	**0.85**	
	Staff Costs (£k)	70.0	**rate/dsy**			**103.25**	**113.75**	**115.50**	**59.50**	
	Hardware (£k)					**2.50**	**2.50**	**2.50**	**2.50**	
	Travel (£k)					**10.00**	**10.00**	**10.00**	**30.00**	
						115.75	**126.25**	**128.00**	**92.00**	**462.00**
	pre-VDFS near IR & optical pipeline development and prototyping - CIRSI etc	3.0	**dsy**							**210.00**
	TOTAL (£k)									**672.00**