Ozone_cci
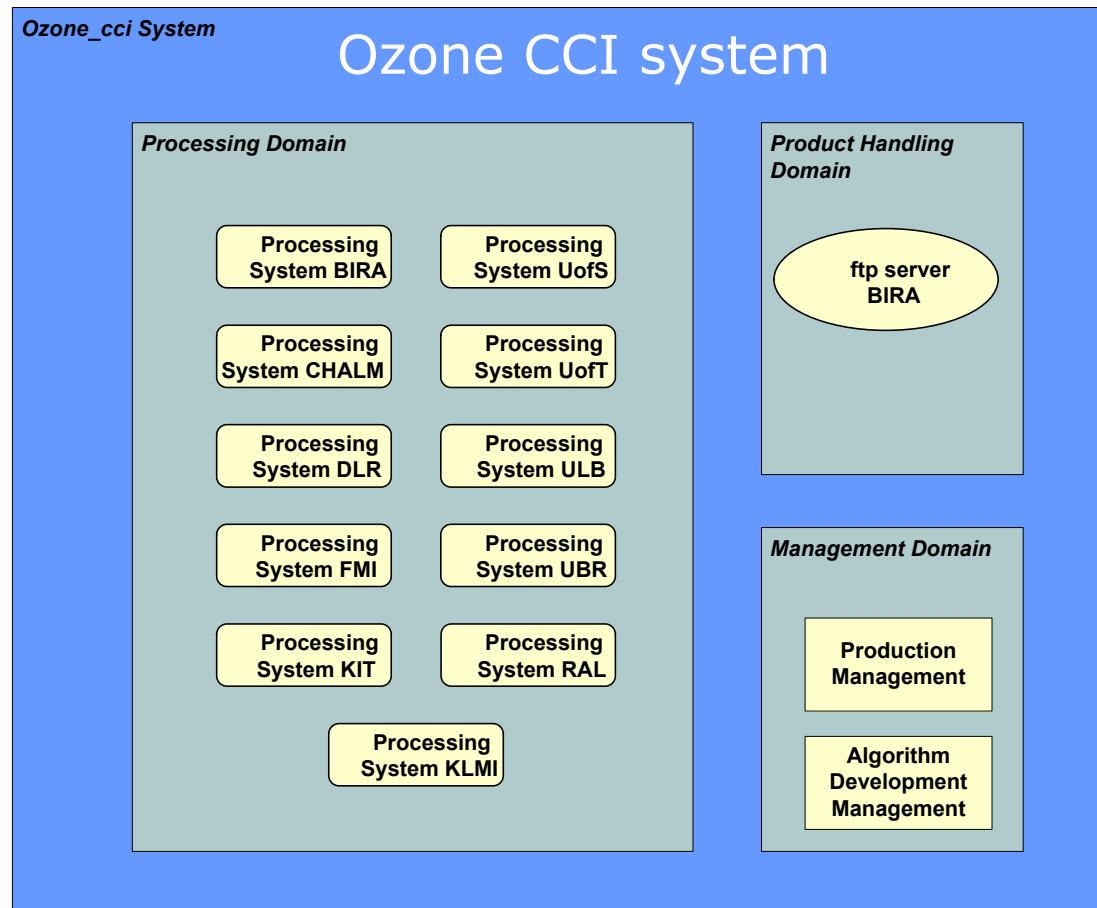
What is operational and what still require R&D?

- Nadir ozone products
- Limb profile products
- Tropospheric ozone products

6th CCI Collocation meeting, ESA/ESRIN, Frascati
29 Sep – 1 Oct 2015

Nadir ozone products

Product	Algorithm baseline	Processing chain	R&D needs	Maturity wrt operationalization
Total Ozone Column				
TC_GOME	CCI	CCI (BIRA)	Low	High (historical data)
TC_SCIAMACHY	CCI	CCI (BIRA)	Low	High (historical data)
TC_GOME2	CCI	CCI (BIRA)	Low	High
TC_OMI	CCI	CCI (BIRA)	Low	High
TC_Merged_L3	CCI	CCI (DLR)	Medium	Medium/High
TC_Sentinel 5P	To be launched in 2016		Medium/high	Low
Nadir Ozone Profiles				
NP_GOME	CCI	CCI (RAL)	Low	High (historical data)
NP_SCIAMACHY	CCI	CCI (RAL)	Low/medium	High (historical data)
NP_GOME2	CCI	CCI (RAL)	Low/Medium	High
NP_OMI	CCI	CCI (RAL)	Medium	Low
NP_IASI	O3MSAF/CCI	CCI (ULB)	Low	High (O3MSAF)
NP_Merged_L3	CCI	CCI (KNMI)	Medium	Medium/High
NP_Sentinel 5P	To be launched in 2016		High	Low

Limb ozone products

Product	Algorithm baseline	Processing chain	R&D needs	Maturity wrt operationalization
UTLS and Stratospheric Ozone Profiles				
LP_SCIAMACHY	IUP	IUP	Low	High (historical data)
LP_GOMOS	FMI	FMI	Low	High (historical data)
LP_MIPAS	KIT	KIT	Low	High (historical data)
LP_OSIRIS	Saskatchewan	Saskatchewan		
LP_SMR	Chalmers	Chalmers		
LP_ACE	U of Toronto	U of Toronto		
LP_OMPS	NASA	NASA		
LP_MLS	JPL	JPL		
LP_HALOE	NASA	NASA		
LP_SAGE2	NASA	NASA		
LP_HARMOZ_L2	CCI	CCI (FMI/IUP)	Low	High
LP_HARMOZ_MZM	CCI	CCI (FMI)	Low	High
LP_MRG_Anomalies	CCI	CCI (FMI)	Low	High
LP_MRG_MZM	CCI	CCI (FMI)	Medium	Medium/Low
LP_MRG_FRM	CCI	CCI (FMI)	Medium/high	Low

Tropospheric ozone products

Product	Algorithm baseline	Processing chain	R&D needs	Maturity wrt operationalization
TTOC_GOME	CCI	CCI (DLR)	Low	High (historical data)
TTOC_GOME2	O3MSAF/CCI	O3MSAF (DLR)	Low	High (O3MSAF)
TTOC_OMI	CCI	CCI (DLR)	Low	High
LNTOC_ENVISAT	IUP	IUP	Low	High (historical data)
LNTOC-OMPS	IUP	IUP	Medium/high	Low

Conclusion

- CCI ozone data products are generally mature and close to reaching operational readiness
- However in most cases, there is no clearly identified structure for transfering production chains developed in CCI (O3MSAF, C3S?)
- Inclusion of Sentinel 5 Precursor data needs specific R&D
- More R&D needed on limb data merging (bias, drift, sampling corrections)