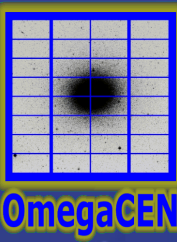


AstroWISE LC workshop



VESUVIO/ beyond AstroWISE

OmegaCEN

NOVA – Kapteyn Institute –

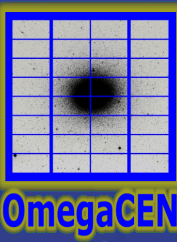
University Groningen

3 April 2008

Edwin A. Valentijn

VWve

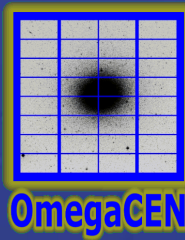
VESUVIO



- Map full nearby superclusters
 - All regions: cores, 2-3 R_{vir} , voids
 - Nearby- \rightarrow high spatial res + Wide

- Study transition cluster to inter-cluster regions in superclusters
 - Sites and processes of morphological transitions
 - Sites of star formation
 - Role of gas (hot and cold) H α , HI, X-ray
- environmental effects on galaxy evolution
 - evolution at the outskirts of clusters
 - type-evolution as function of environment
 - Relation to large scale structure formation
- studying filamentary galaxy structures outside the dense clusters:
 - nearby ($z < 0.1$) superclusters 10 – 100 SqDeg –
 - Hercules Compact, North, has everything
 - Horologium huge, complex, South, unexplored
 - 2dF South
 - high redshift ($z > 0.6$) superclusters – 2 * 2 Sq Deg

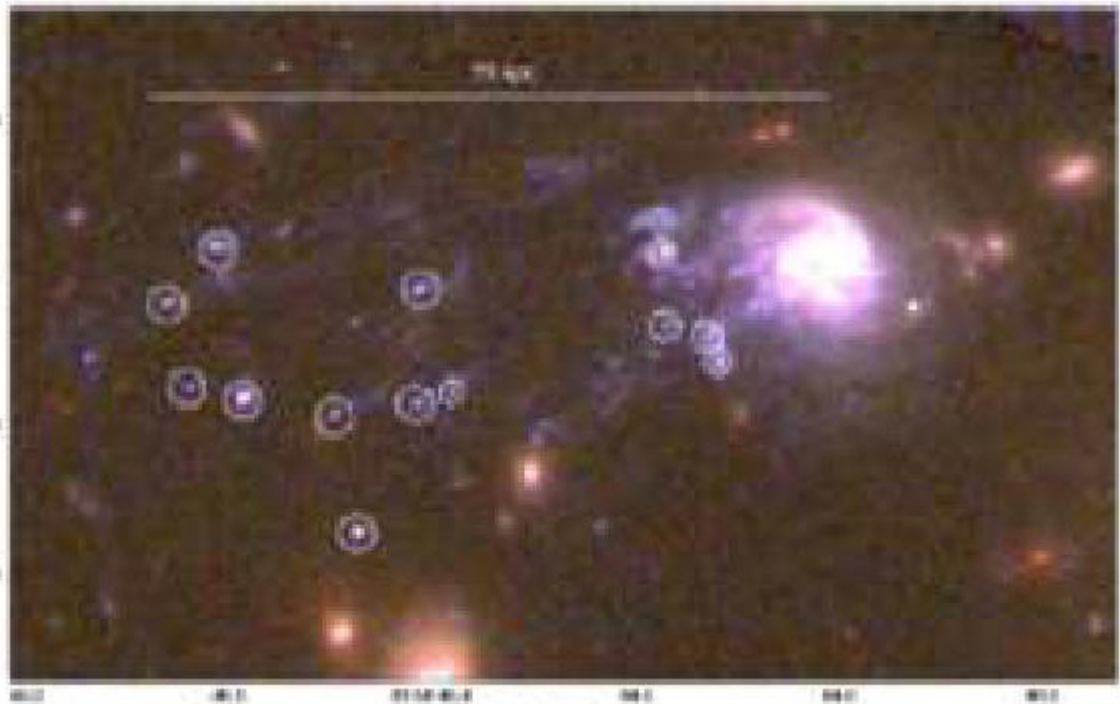
The riddle of morphological transitions



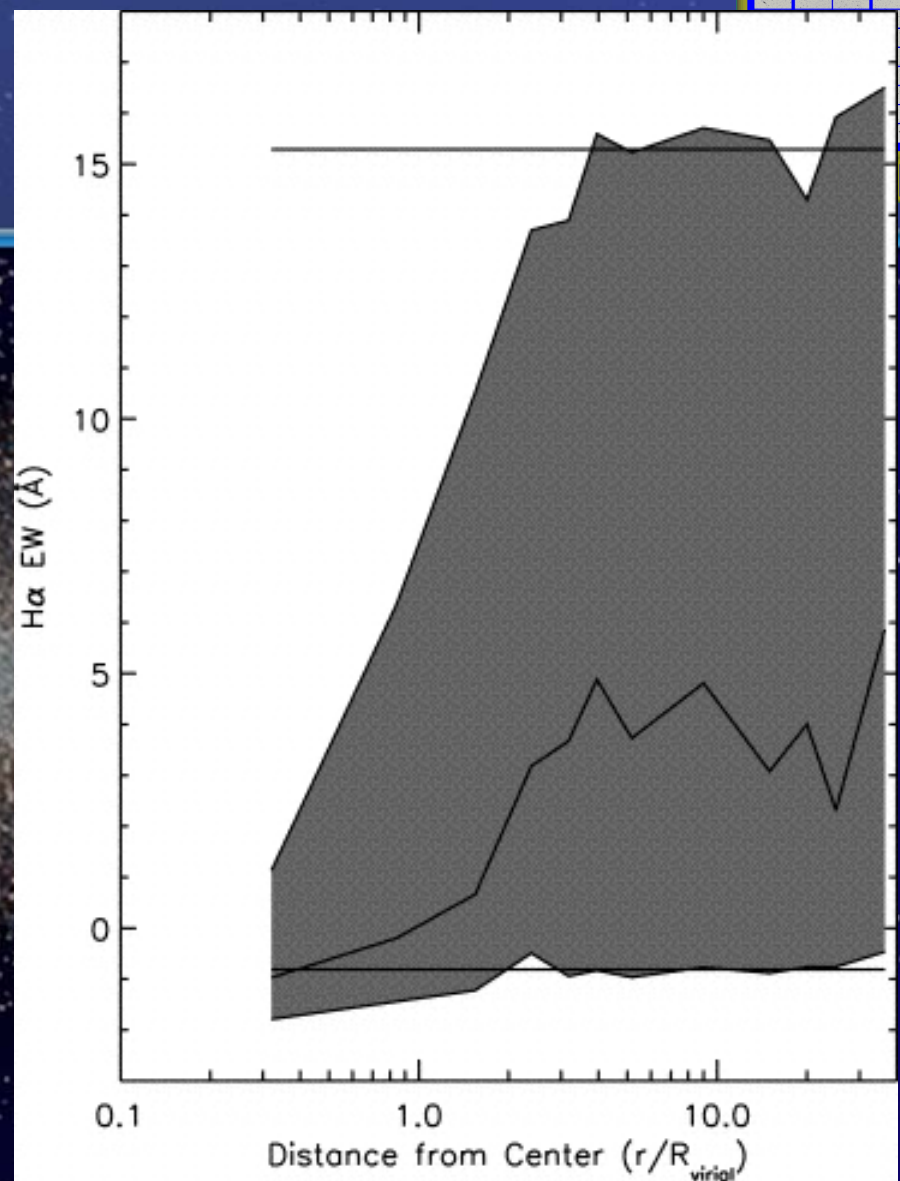
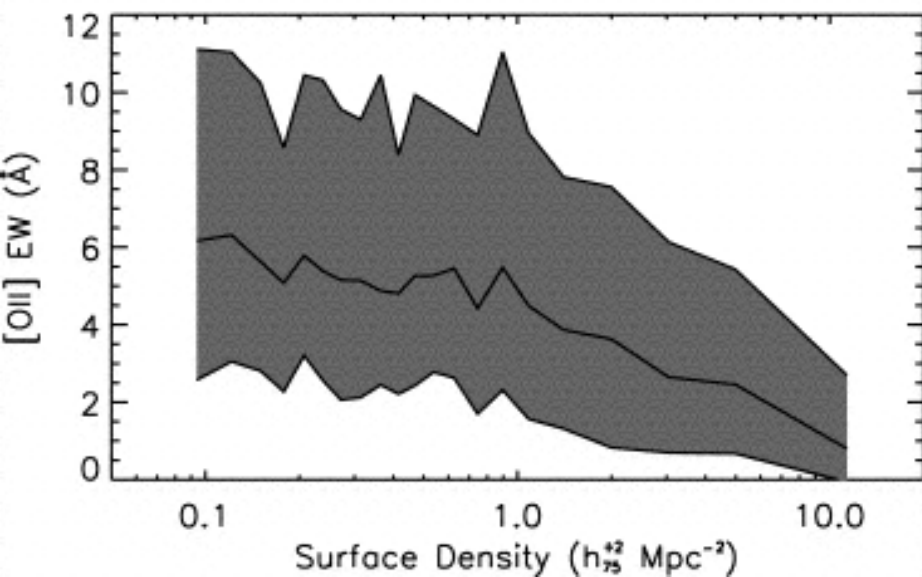
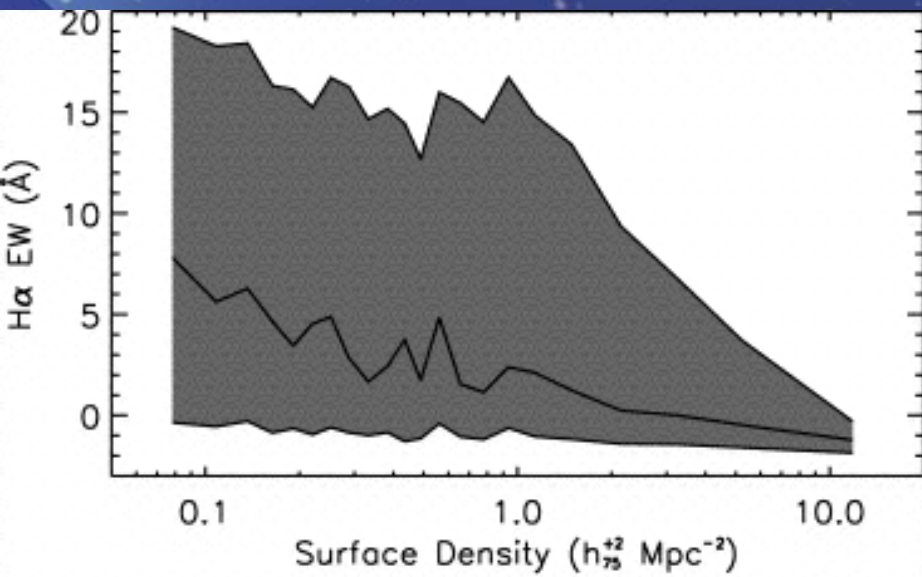
Where? How much? What?

- Merging
- Close encounters
tidal interactions
- Ram pressure
stripping
- Harrasment

The strong transformation of spiral galaxies infalling into massive clusters at $z \approx 0.2$ 15

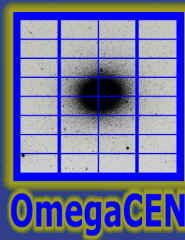


A2667 $z=0.23$ Cortese et al 2007



SDSS- Gomez et al 2003

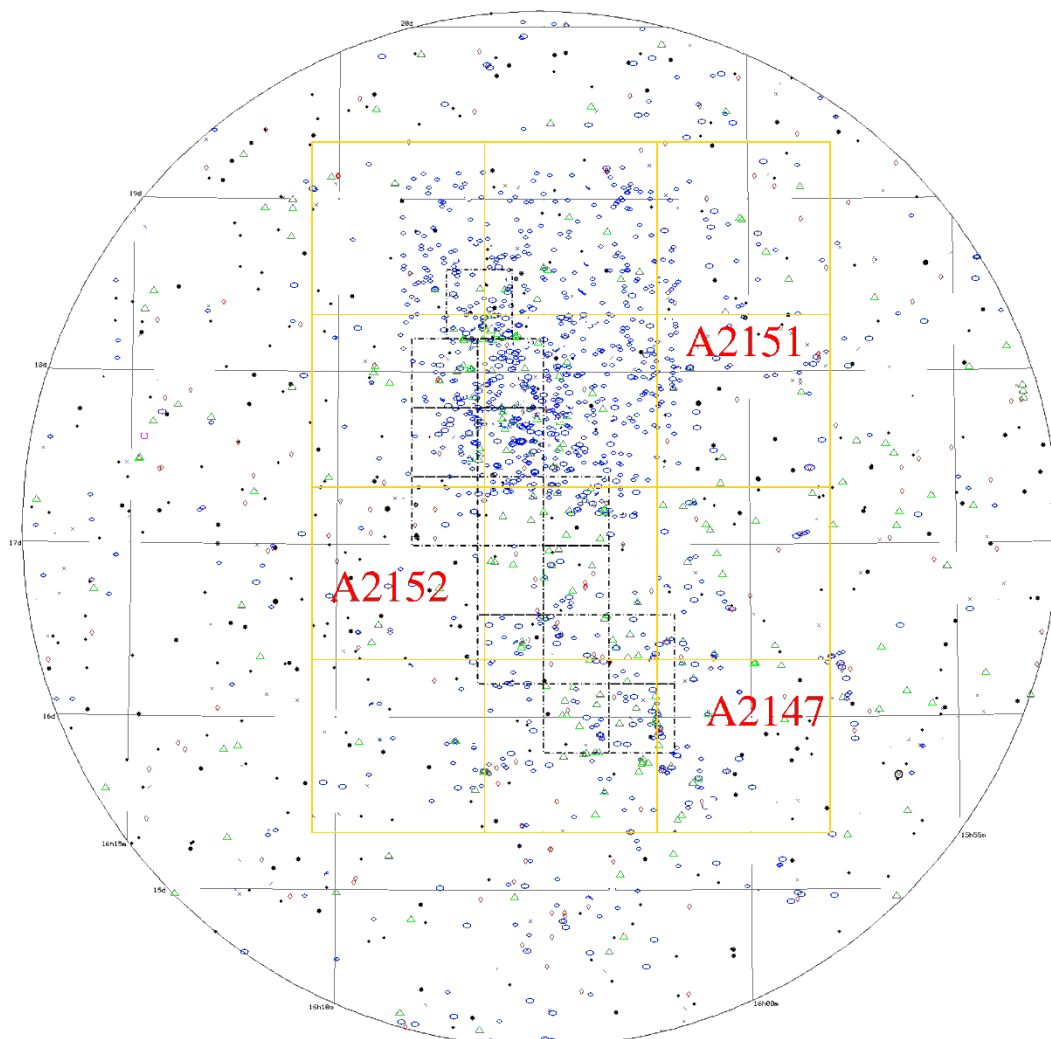
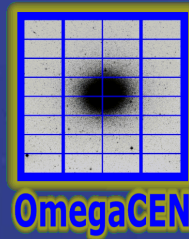
Original VESUVIO programme



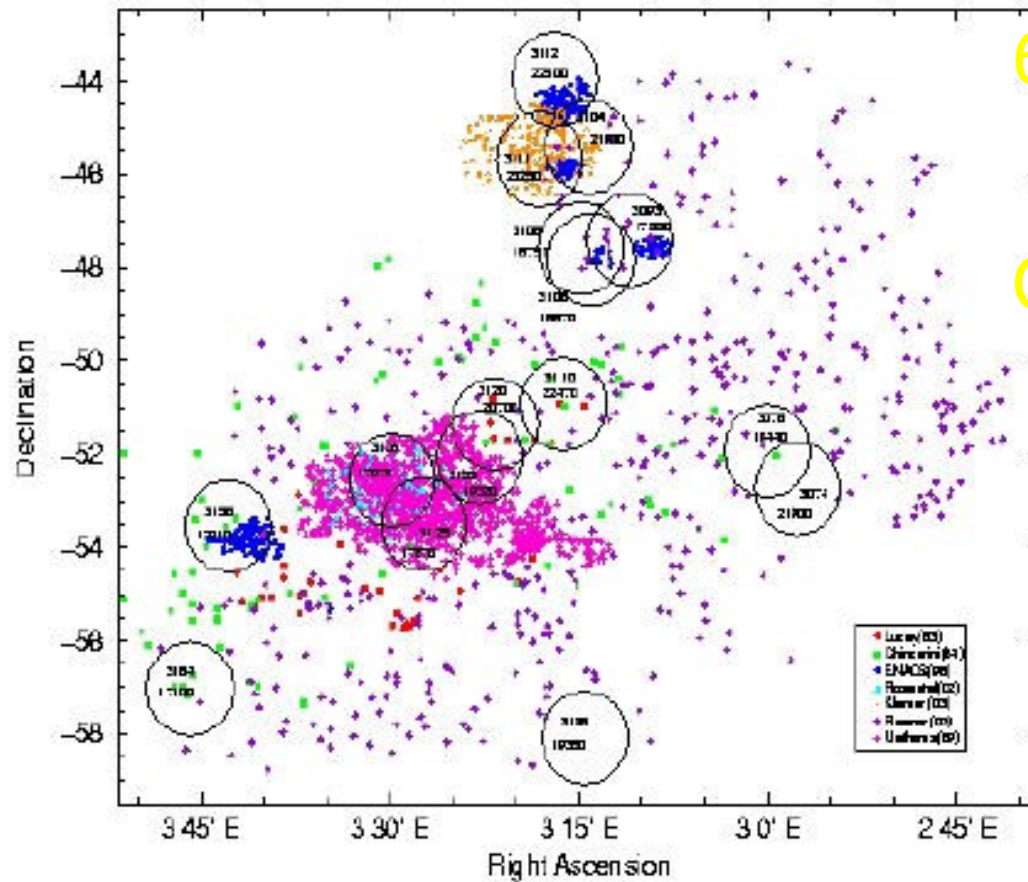
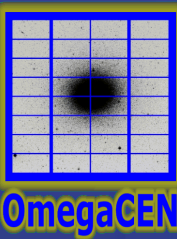
S/N=5 Ab magnitudes

- Medium deep survey 2h/field
 - 5 sigma, 2000 sec: $g'(25.6)$, $r'(25)$, $i'(24.4)$, $z'(23.2)$
 - 2dF - SGP (Piscus/Cetus) KIDS (10 nights WFI@2.2)
 - 200 Sq Deg **Horologium** -> 60 - 100 nights
- Deep Survey 6 h/field u' (2h) g' , r' , i' , z' (1h)
 - 5 sigma : u' (25.7), g' (26.3), r' (25.7), i' (25.1), z' (23.9)
 - **Hercules** 12 Sq Dg - > 8 nights
 - 4 x 0.5h Halpha (2h/field)->3 nights
- Very Deep Survey **4 fields** ~ 12 h/field all 5 nights
 - 5 sig g' 2h(26,7), r' 2h(26.1), i' 4 h(25.8), z' 4h (24.6)
 - 2 Hercules - 2 Horologium

Hercules super



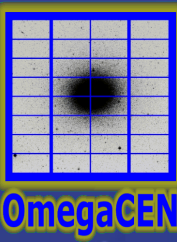
Horologium 6dF redshifts



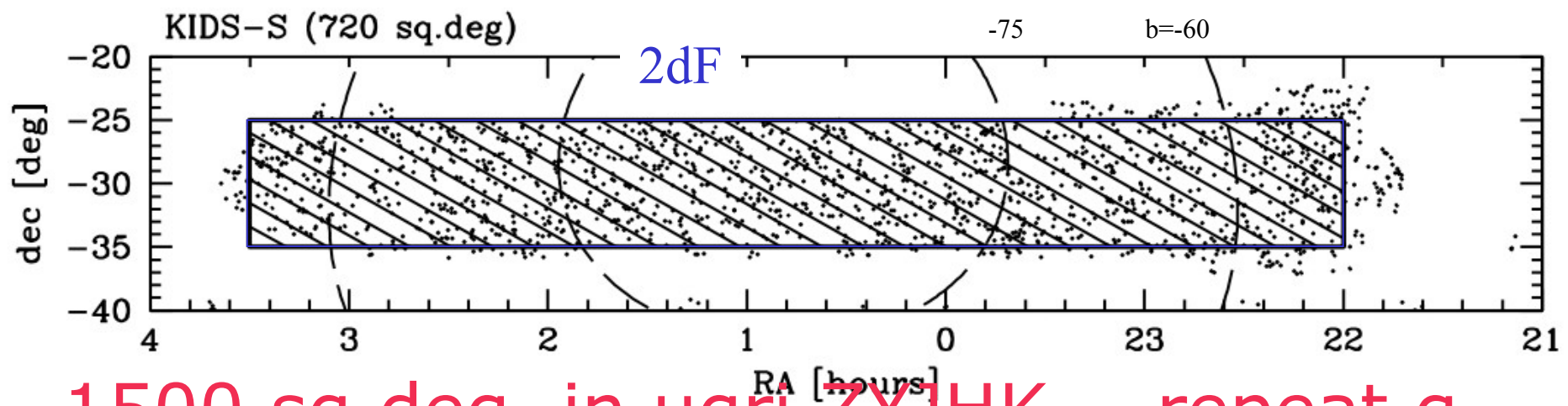
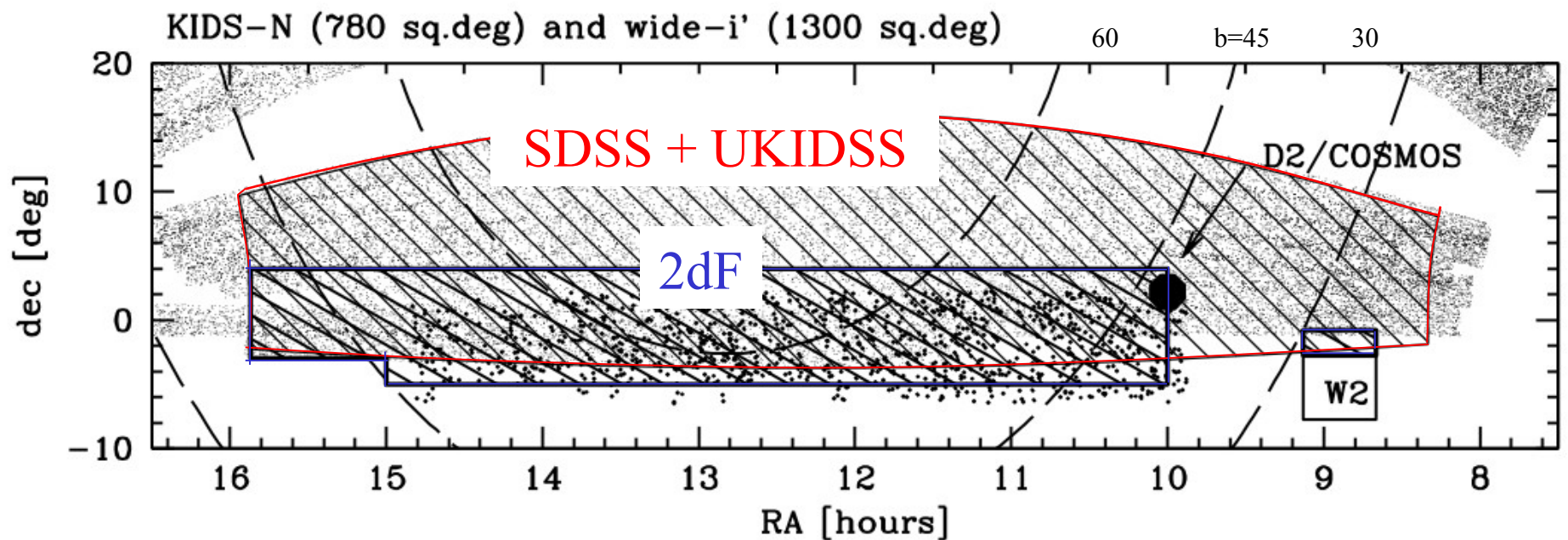
6 brightest
clusters
Chandra

Figure 1: Redshift information for the HR region under study. Abell clusters thought to be in the HRS are shown by circles with respective velocities. Color coding is based upon the particular survey. The last two entries in the legend are new data.

2-4 h/field VESUVIO@KIDS



- Horologium
 - +novel
 - Redshifts
 - +Area vs KIDS = extension +
 - +6 CHANDRA
 - +3 VOIDS
- Shapley
 - + redshifs
 - + Chilean
 - KIDS area
- KIDS -S extension
- KIDS -S deep AAOmega



1500 sq.deg. in ugri ZYJHK -repeat g
 +1280 sq.deg. in i +(UKIDSS YJHK)

KIDS + VIKING

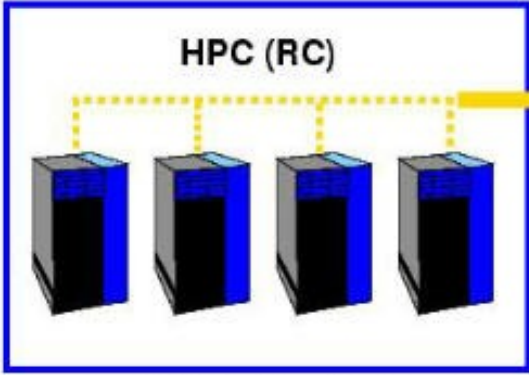
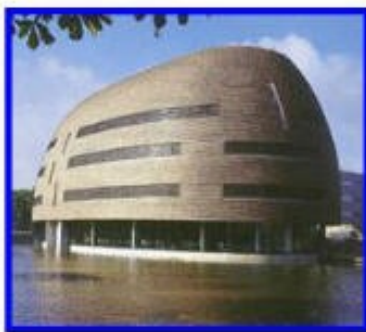
- 1500 sq.deg. of ugri (~400n VST) + ZYJHK (~200n VISTA)
- Deeper in r, with good seeing
- **KIDS 2m deeper than SDSS** (1m shallower than CFHTLS)
- **VIKING 1.5m deeper than UKIDSS**

filter	Exp (s)	5- σ 2" AB	cf. UKIDSS
Z	500	23.1	-
Y	400	22.4	+1.6
J	400	22.2	+1.8
H	300	21.6	+1.6
K	500	21.3	+1.3

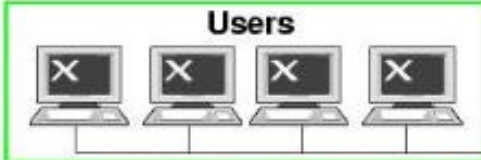
filter	Exp time (s)	Medn seeing (")	5- σ 2" AB
u'	900	1.0	24.8
g'	900	0.75	25.4
r'	1800	0.6	25.2
i'	1080	0.75	24.2
z'	2520	0.75	23.2

	<0.7" 40%	0.7-0.85" 20%	0.85-1.1" 20%
Dark(50%)	r'	g'	u'
Grey(15%)	i'	i'	i'
Bright(35%)	z'	z'	z'

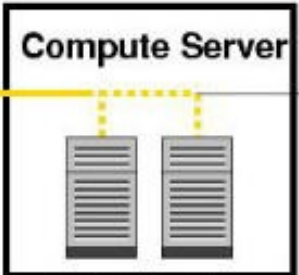
-VST - Virtual Survey Telescope



Parallel Pipeline (Python)
Oracle Client
FileServer Client (Python)



Gateway to Astro-Wise Compute Server

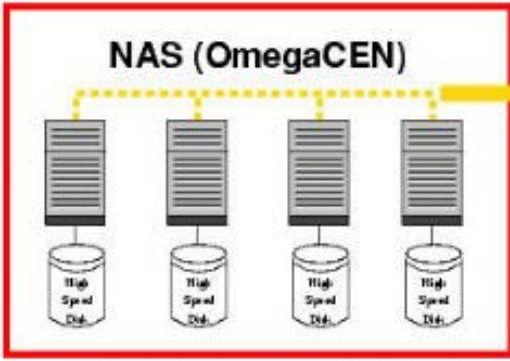


AWE Monitor
Pipeline (Python)
Oracle Client
FileServer Client (Python)

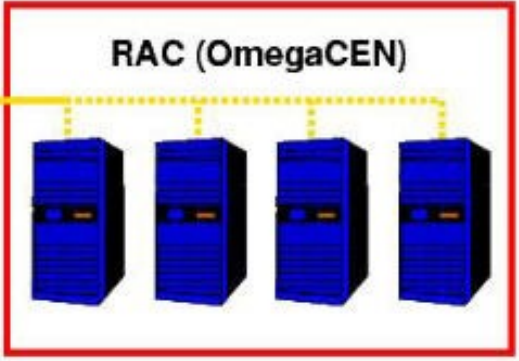


Leiden
München
Napoli
Paris

WAN

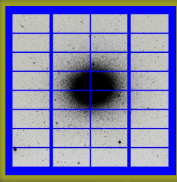


FileServer Server (Python)

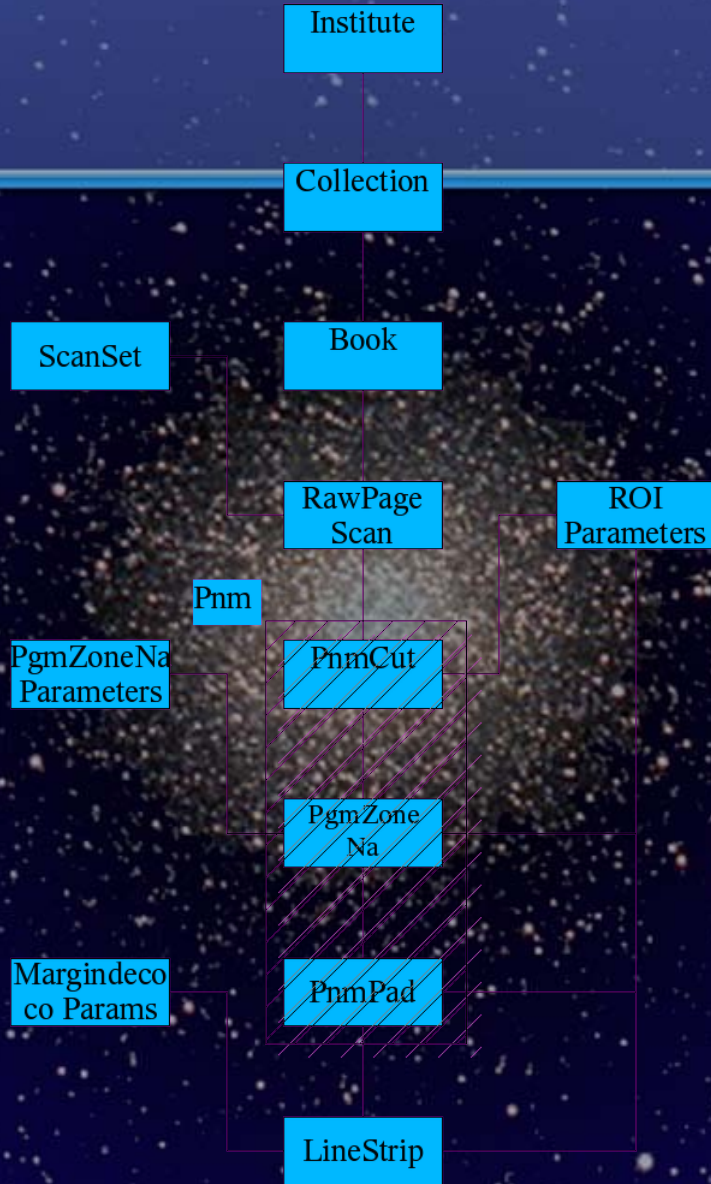


Oracle Server

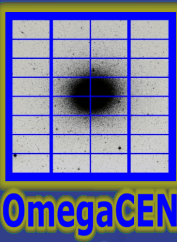




OmegaCEN



- AI - Cultural Heritage



1346

1903 ^{9^m}₂ Kon. Kol. Mil. Invalidenkuis.

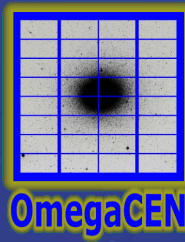
Jan- 10 43 Rapport d'Jan: 11 43, aanbieding van het ver-
slag betreffende het Kon. Kol. Mil. Invalidenkuis
op Moulbeek over het 4^e kwartaal 1902
— Notificatie

April 16 23 Rapport d'April 11 58, al boven over het 1^e kw' 1903
— Notificatie

Juli 15 65 Rapport d'Juli 11 28, al boven over het 2^e kw' 1903.
— Notificatie.

Octb 12 7 Rapport d'Octb 13 46, al boven over het 3^e kw' 1903
— Notificatie.

AstroWise- Lofar



IBM- Blue Gene/L

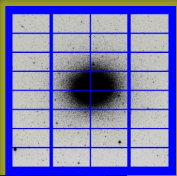
5 Petabyte/yr

- EoR

- Survey



E-Lofar: the telescope



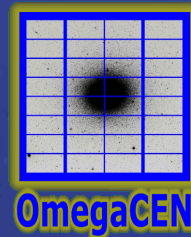
CEN



LOFAR



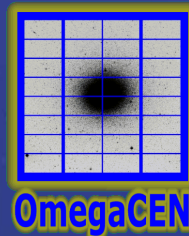
Lofar Storage



<i>User</i>	<i>Temporary storage</i>	<i>Permanent storage</i>
Survey	50TB	240TB
EoR	2PB	800TB
Transients		1.1PB/yr
Cosmic Ray	1PB	745TB + 70TB/yr
Project	2.2PB	3.8PB/yr

Table 7: Summarising the actual storage need of the KSP's and a general user.

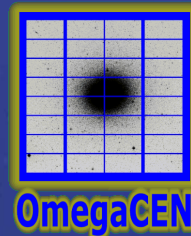
Lofar ADD



The members of the working group cover the following **connectivity** related issues:

- LOFAR- real time processing plus storage (Broekema/Gunst)
- LOFAR- calibration data bases (Broekema/Gunst)
- EGEE-GRID storage (Dijkstra- Belikov)
- EURO-VO publication (A. Belikov)
- EURO-VO GRID computing (A. Belikov)
- Astro-WISE database and end-users (Boxhoorn, Vriend)
- TARGET/CIT global long term storage and user enabling (Valentijn, + Target group)
- IBM components (de Rooy, van Hoof, Pieksma, Goertler)
- Oracle components – 11g (Jurrien)

LoWISE design



LoWise

