

Document Header

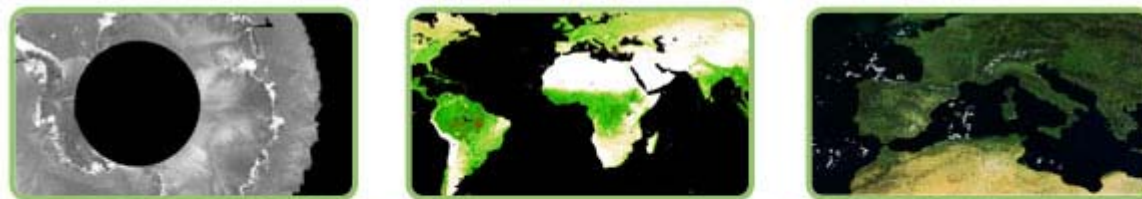


Title	ESA Grid Processing on Demand for Scientists
Author	J. Farres – EOP-GTR
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CHANGE LOG		
Date	Issue	Change
3/9/09	1.0	Original. Authored by E. Mathot
13/11/09	2.0	Major review by J. Farres
26/03/10	3.0	Add document header. Minor changes to title, team. Resource update.
7/10/10	3.3	Update
8/3/11	3.4	G-Pod 2 screenshots

G-Pod

ESA Grid Processing on Demand for Working Scientists



J.Farres – EOP-GTR

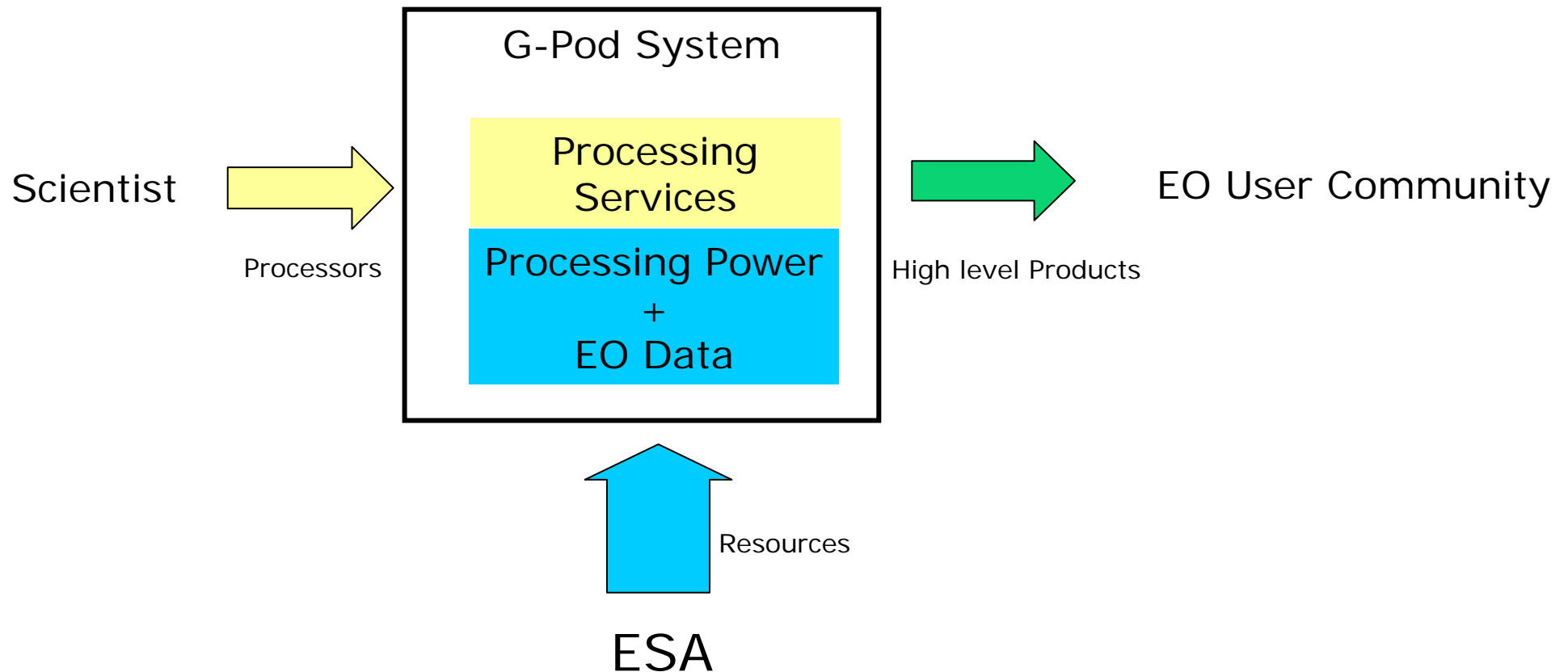
ESRIN

13/11/2009

G-Pod System: Objective and Concept



Promotion of the access and use of EO mission data available at ESA, offering on-line access to products with attached computing infrastructure and tools to assist the generation of “scientific added value products”



1. G-Pod System Resources

2. G-Pod Processing Services available

3. How to add a new Service

4. How are users supported

G-Pod System: computing resources



- Over 350 Computing Nodes
- Over 250+300 TB On-line Storage
- Network
 - Gbit LAN
 - 500x2 Mbps to Internet
 - HiSEEN WAN to PACs
- Access to virtual (cloud) resources
- Trend: 10% yearly increment
- Software Resources on-line
 - IDL, Matlab
 - BEAT, BEAM, BEST, CQFD, NEST, BRAT
- System: GRID Globus on Linux



G-Pod System: data resources



Product Description	Product Source			Size
	Consolidated	Reprocessed	NRT from PDHS	
ASAR (L1)			Systematic and on-request products from rolling archives	+7.7TB
MERIS Reduced Resolution (L1/L2)	From ACRI (MERIS/5.02) 17/06/2002 to 30/06/2006 [MERC]		From 01/07/2007 (MEGS-PC/7.4.1)	+58TB
MERIS Full Resolution Swath over europe (L1/L2)			From 01/01/2007	+14TB
(A)ATSR (L1/L2)	ENVISAT July 2002 to July 2007 (ATSR 6.01) @ UKPAC [2010 GPOD@UKPAC] ERS & ENVISAT all missions		From July 2007	+42TB
RA2 (L1/L2)	From June 2002 @ FPAC		From July 2005	+7TB
MIPAS (L1/L2)	From June 2002 @ DPAC			+7TB
SCIAMACHY (L1/L2)	From June 2002 @ DPAC			+14TB
GOMOS (L1/L2)	From June 2002 @ DPAC			+5TB
GOME (L1)	From June 1995 @ DPAC			+1.2TB
MSG SERVIRI			From 2006 [SSE]	+1.2TB
ATSR L2 AARDVARC	ENVISAT From July 2002 [2010 GPOD@UKPAC] ERS & ENVISAT all missions			+2TB
MERIS Level 3 and MGVI	From June 2002			+2.5TB

TOTAL on-line data : ~180TB

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G-Pod Services



- MERIS Level-3 Products



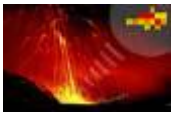
- ACRI (France), JRC/Ispra (EC) and Brockmann Consult (BEAM)
- 11 daily & monthly products on-line

- Daily ASAR GM mapping of Antarctica



- Daily Generation of 400-m resolution mosaics
- publishing on ESA Web Map Server

- Volcanoes Monitoring by Infrared

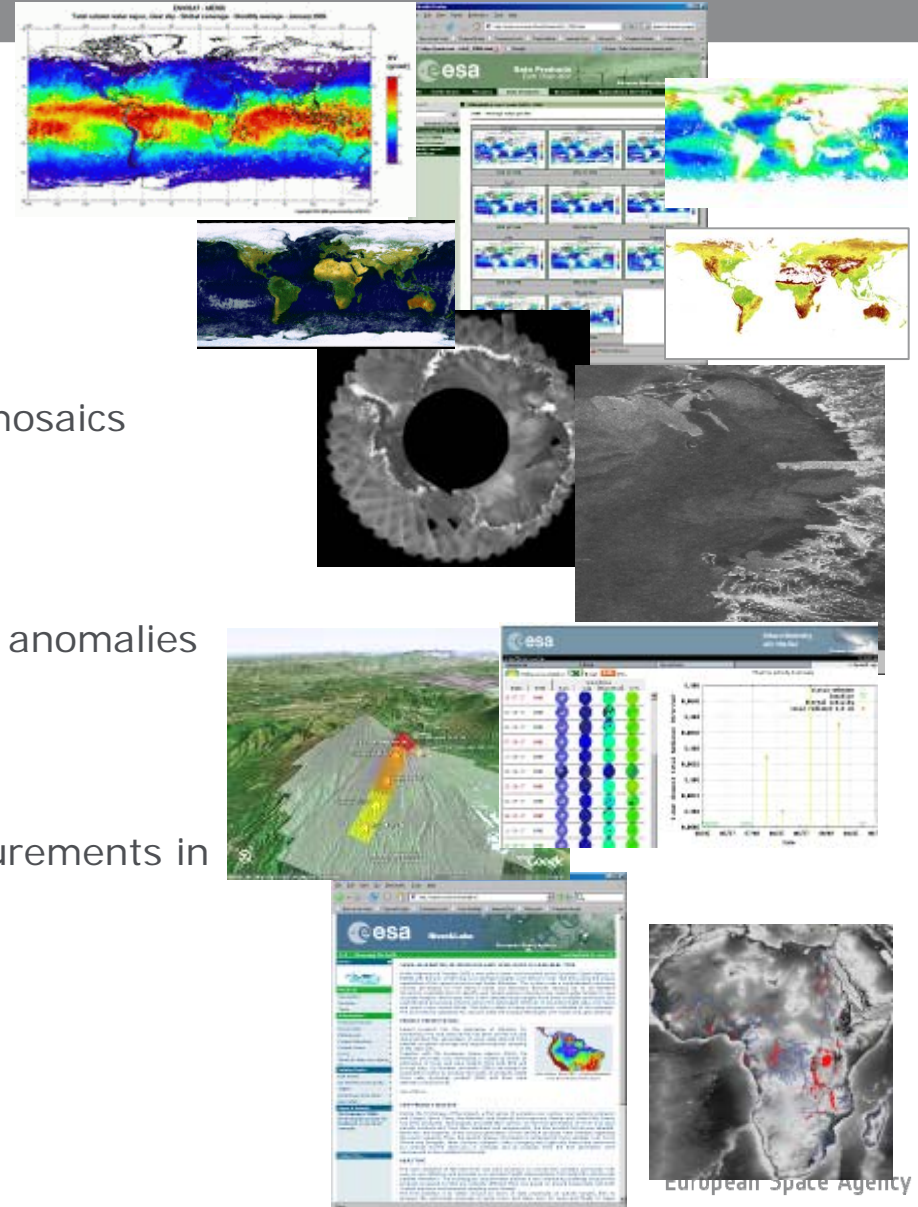


- Real-time Extraction of AATSR thermal anomalies over > 300 volcanoes
- Long-Term database on line

- River and Lake Processor



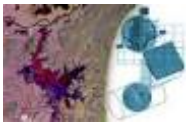
- Accurate River and Lake heights measurements in NRT from satellite altimetry (RA2)
- products published online /



G-Pod Services



- FAIRE 2



- flood crisis/damage mapping service
- Used for the International Charter Space & Major Disasters in GMES RESPOND services to humanitarian aid users

- MGVI on-demand



- 1km vegetation on user area
- User-defined aggregation period

- Imager



- Multi-mission imaging tools
- Data selection, user-defined processing, image rendering, geo-coding, visualisation

- MIRAVI Geo-toolbox



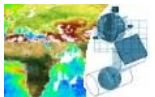
- Geocoding of MERIS full resolution images produced by MIRAVI real-time service

- Aeromeris

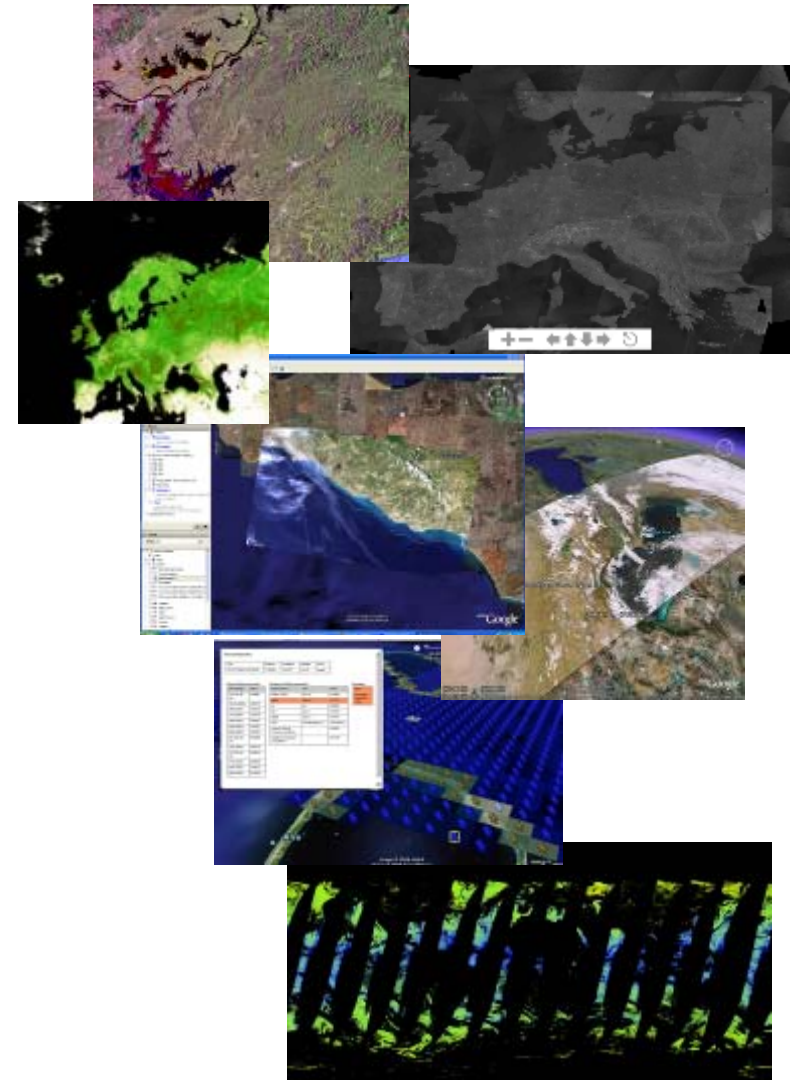


- Fast extraction over user-area of pixels and statistics from the complete MERIS level-2 product archive

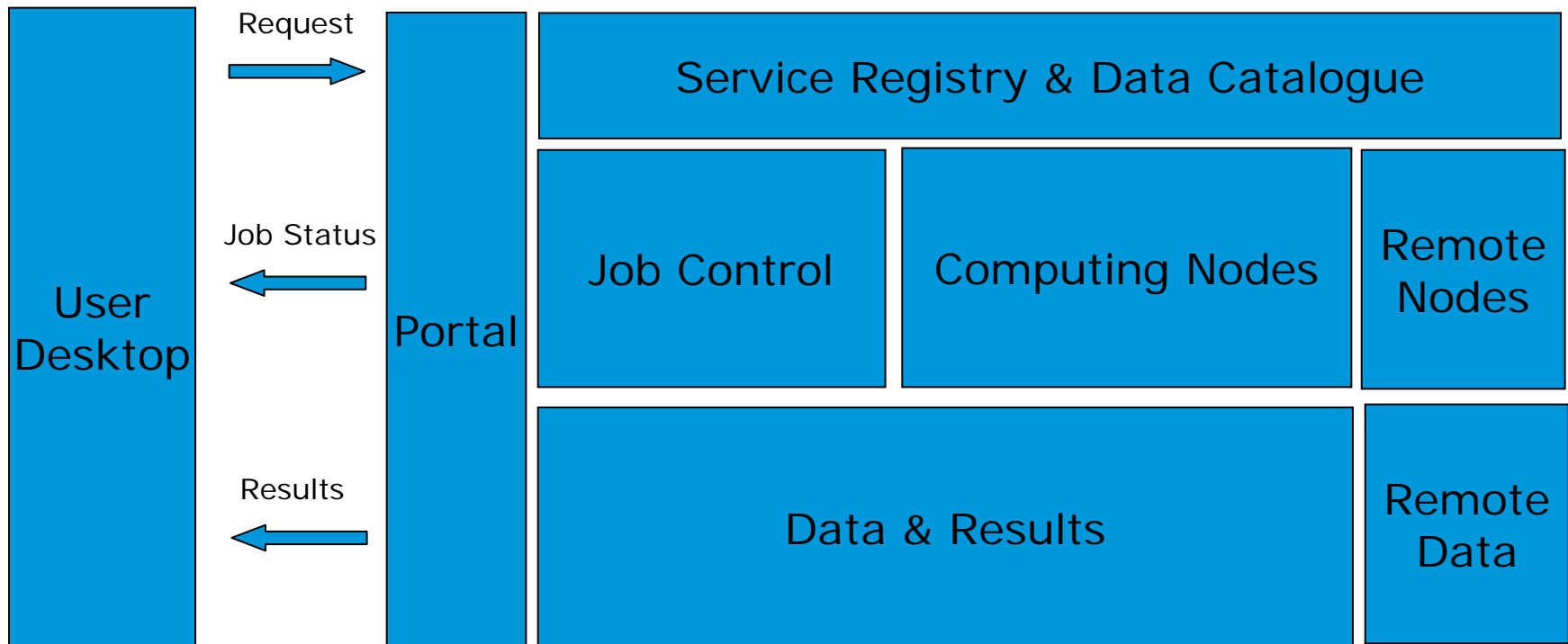
- BEAMARITHM



- BEAM user-defined pixel computations
- Aggregation in Level-3



G-Pod High Level Architecture



1. G-Pod System Resources
2. G-Pod Processing Services available
3. How to add a new Service
4. How are users supported

- Process

1. Proposal: Scientist submits *Application Description*
2. Design: Scientist designs processor modules and related data flows
G-Pod Team designs the application (encapsulation)
3. Implementation: Scientist develops/adapts processor modules
G-Pod Team integrates processor in a G-Pod service
Scientist analyses results
4. Exploitation: Scientist keeps Intellectual Property
G-Pod Team exploits service

1. G-Pod System Resources
2. G-Pod Processing Services available
3. How to add a new Service
4. How are users supported

- Integration of a new G-Pod service
- Processing campaigns
- NRT processing and monitoring

- Helpdesk and user support
- Wiki & Forum Management

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[Logout](#)**GPOD community**[Wiki Home](#) ▶[Forum](#) ▶[PHAEVOS Project](#) ▶[KLIMA-IASI Project](#) ▶[GHSL project](#) ▶[MIVARS Project](#) ▶[WACMOS Project](#) ▶**HMA community**[Wiki Home](#) ▶[Forum](#) ▶**IIM community**[Wiki Home](#) ▶[Forum](#) ▶**SSE community**[Wiki Home](#) ▶[Forum](#) -[SSE](#) ▶


GPOD Wiki

Welcome to the GPOD Wiki!

If you want to discover the [Grid Processing on Demand Portal](#) , you can access the [GPOD Products demo](#).

Useful resources for GPOD users:

- GPOD [User Manual](#)
- GPOD [FAQ](#)

Contributors to this page: [Alessandro Marin](#) .

Page last modified on Monday 28 of June 2010 11:22:05 CEST by [Alessandro Marin](#) .

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- Guidelines:

EO G-Pod – The G-POD CAT-1 Opportunity, Is. 1.0 <http://eopi.esa.int/G-Pod>

EO G-Pod – Guidelines for Application Compatibility, 2.0 <http://eopi.esa.int/G-Pod>

- Contact & Reference

G-Pod

<http://gpod.eo.esa.int/>

G-Pod User Manual, Is.3.3

<http://gpod.eo.esa.int/>

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