



# Groupe Technique National PC-7. Priorité "NMP" & Intégration Réunion N°2

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## Ordre du jour

- Fonctionnement du Comité de Programme
- Premiers appels, premiers résultats
- Données ANR E Massoni
- Projet de programme de travail 2008

### Généralités

Caractéristiques d'ensemble; risques de sursouscription

- Revue détaillée des 54 sujets proposés
- ERA-NET D Djeapragache
- Divers

- Rappel position FR: **Refus programme de travail**
  - **Substitution de schémas financiers aux STREPS et IP** (Négation du principe d'excellence; discrimination financière entre pays, masse critique; Impact )
  - **Absence de stratégie** (Synergies N,M,P,I, Positionnement / ERC, Recherche et industrie)
  - **Référentiel d'évaluation succinct**
- **Gouvernance**
  - **Intérim de la DG** (Stratégie, Forces centrifuges de N,M,P,I Influence des EPT, Cloisonnement inter thématiques)
  - **Comité Programme = 33 délégations** (Consensus vs vote; Implication et compétences)
  - **Positionnement / ERANET, PME, actions internationales** ( IMS, SICA)
  - **Programmes de travail en Anglais, Comités de programme informels ou supprimés**



| Instruments | Budget | N Sujets | N propositions | Subv.demandées | Budget moy demandé/projet | Loi DGR * |
|-------------|--------|----------|----------------|----------------|---------------------------|-----------|
| LSCP        | 310    | 10       | 266            | 2020           | 7.6 M€                    | 300       |
| SME         | 70     | 6        | 182            | 565            | 3.1 M€                    | 85        |
| SSCP        | 140    | 13       | 769            | 2150           | 2.8 M€                    | 320       |
| Total       | 520    | 31       | 1217           | 4735           | -                         | 705       |

\* Loi empirique DGR: étape 1 → 33 % retenus, étape 2 → 50 %

## Premiers constats :

- Projets plus petits que dans FP6
- Forte sursouscription pour les SMALL



Vers un saupoudrage des financements NMP au détriment d'une stratégie réelle

## NMP appels 2007; répartition des propositions par thématique

| Instruments | Nanos | Materials | Production | Integration | Total                    |
|-------------|-------|-----------|------------|-------------|--------------------------|
| LSCP        | 28    | 106       | 67         | 64          | 266 (+ 1 not classified) |
| SME         | 49    | 15        | 59         | 58          | 182 (+ 1 not classified) |
| SSCP        | 295   | 332       | 140        | (2)         | 769                      |
| Total       | 372   | 453       | 266        | 122 (124)   | 1217                     |
| Nbre sujets | 6     | 11        | 10         | 6           | 33                       |

Présentation E Massoni

## • Caractère industriel de NMP

- Abandon de la notion de « Breakthrough »
- Recherche appliquée et recherche applicable (FET, Positionnement / ERC) 2.3 → 4

## • Identification des besoins

- **Contraintes** ( Prog. Coopération, Budget, demandes sectorielles, caractère transverse de la thématique)
- « **What, Why, How,When,Who** » (Finalités "**SMART**"\*, Instruments, Hiérarchisation, Acteurs Coordinations)
- Base « catalogue » 110 → 54 sujets + « open list »

## • Optimisation

- Montée en puissance R&D → applications industrielles (sujets, instruments,"efficience")
- Expérience étape 1appel 2007 ( N propositions, Budg demandés, N "bullets")
- Projets transversaux, et demandes sectorielles

\* Specific, measurable, Achievable, Relevant, Timed

# Projet de Programme de Travail 2008

## Version Commission

Version 04/07

54 sujets

|                         | <p style="color: red; font-weight: bold;">Large</p> <div style="border: 1px solid red; padding: 5px; color: red; font-size: 8px;">Large scale cooperative projects</div> | <p style="color: red; font-weight: bold;">SME</p> <div style="border: 1px solid red; padding: 5px; color: red; font-size: 8px;">SME-focused cooperative projects</div> | <p style="color: green; font-weight: bold;">Small</p> <div style="border: 1px solid green; padding: 5px; color: green; font-size: 8px;">Small or medium scale cooperative projects</div> | <p style="color: blue; font-weight: bold;">Other</p> <div style="display: flex; justify-content: space-around; font-size: 8px;"> <div style="border: 1px solid blue; padding: 5px; color: blue;">Coordination &amp; Support Actions (CSA)</div> <div style="border: 1px solid blue; padding: 5px; color: blue;">ERA Net</div> <div style="border: 1px solid blue; padding: 5px; color: blue;">ERA Net Plus</div> </div> |          |          |
|-------------------------|--|--|--|---|----------|----------|
| <b>NANO (11)</b>        | 2  | 1  | 5  | 2   | 1        |          |
| <b>MATERIALS (14)</b>   | 1  |  | 11   | 1   |          | 1        |
| <b>PRODUCTION (11)</b>  | 2  | 2  | 5  | 2   |          |          |
| <b>INTEGRATION (18)</b> | 9  | 2  | 1  | 3   | 3        |          |
| <b>Total (54)</b>       | <b>14</b>  | <b>5</b>   | <b>22</b>  | <b>8</b>  | <b>4</b> | <b>1</b> |

## Projet Progr travail 2008. Sursouscription ?

| Budg. 2008   | Données               | PC 6                            | WP 2008<br>Version | 2008<br>Com 05/07                       | Version                         | WP 2008<br>Com 05/07 | Hyp 1<br>DGE      | Version                         | WP 2008<br>Com 05/07 | Hyp 2 DGE         |
|--------------|-----------------------|---------------------------------|--------------------|---|---------------------------------|----------------------|-------------------|---------------------------------|----------------------|-------------------|
| ↓<br>500 M€  | Subv.<br>Projet<br>M€ | Nombre<br>Projets /<br>"Bullet" | N<br>"Bullet"      | Budget<br>Demandé<br>données<br>PC 6 M€ | Nombre<br>Projets /<br>"Bullet" | Réduction<br>N       | Budget<br>demandé | Nombre<br>Projets /<br>"Bullet" | N<br>"Bullet"        | Budget<br>demandé |
| LSCP         | 10                    | 2.5                             | 14                 | 350                                     | 2.5                             | 14                   | 350               | 2                               | 14                   | 280               |
| SME          | 6                     | 5                               | 5                  | 150                                     | 2.5                             | 4                    | 60                | 3                               | 5                    | 90                |
| SSCP         | 2.4                   | 5                               | 22                 | 264                                     | 5                               | 11                   | 132               | 3                               | 22                   | 158               |
| Autres       | 2.5                   | 1                               | 13                 | 32                                      | 1                               | 13                   | 32                | 1                               | 13                   | 32                |
| <b>Total</b> |                       |                                 | 54                 | 796                                     |                                 | 41                   | 549               |                                 | 54                   | 560               |

## Projet Progr travail 2008. IP vs IP-PME

| FP 6 NMP                 | IP      |     |        |     | IP PME  |     |        |     |
|--------------------------|---------|-----|--------|-----|---------|-----|--------|-----|
|                          | Global  |     | France |     | Global  |     | France |     |
|                          | M€      | %   | M€     | %   | M€      | %   | M€     | %   |
| Grds groupes et médianes | 165 565 | 23% | 13 339 | 20% | 14 009  | 7%  | 2 165  | 13% |
| PME < 250 personnes      | 108 073 | 15% | 10 609 | 16% | 81 336  | 39% | 5 163  | 31% |
| Total industrie          | 273 638 | 38% | 23 948 | 35% | 95 345  | 46% | 7 328  | 43% |
| Total Recherche          | 443 374 | 62% | 44 163 | 65% | 111 918 | 54% | 9 560  | 57% |

- En % IP PME plus favorables à l'industrie que IP
- La position de l'industrie Française / moyenne autres industries: - 3% IP et IP PME
- En % pour la France, Grds Groupes et médianes plus performants dans IP PME que PME
- Taux de couverture 2.5 IP vs 5 IP PME.
- Aides 10 M€ IP vs 5 M€ IP PME

# Projet de Programme de Travail 2008

## Version Commission

**Version 04/07**  
**54 sujets**

|                         | Large                            |                                  | SME | Small                                      | Other                                |          |              |
|-------------------------|----------------------------------|----------------------------------|-----|--|--------------------------------------|----------|--------------|
|                         | Large scale cooperative projects | SME-focused cooperative projects |     | Small or medium scale cooperative projects | Coordination & Support Actions (CSA) | ERA Net  | ERA Net Plus |
| <b>NANO (11)</b>        | 2                                | 1                                |     | 5  | 2                                    | 1        |              |
| <b>MATERIALS (14)</b>   | 1                                |                                  |     | 11   | 1                                    |          | 1            |
| <b>PRODUCTION (11)</b>  | 2                                | 2                                |     | 5  | 2                                    |          |              |
| <b>INTEGRATION (18)</b> | 9                                | 2                                |     | 1  | 3                                    | 3        |              |
| <b>Total (54)</b>       | <b>14</b>                        | <b>5</b>                         |     | <b>22</b>                                  | <b>8</b>                             | <b>4</b> | <b>1</b>     |

Large Small Other

|   |   | Comments                            |
|---|---|-------------------------------------|
| 4.1. Nanosciences and converging sciences (5 topics)          |   |                                     |
| 4.1.1-1   | Breakthroughs in Nano-biotechnology for future industrial processes- SM                     | Coord. Theme 1 / HEALTH             |
| 4.1.1-2   | Converging sciences in nanotechnology (nano, bio, info, cogni) - SM                         |                                     |
| 4.1.1-3   | Self assembling and self organisation (to be focused following experience of 1st call) – SM |                                     |
| 4.1.1-4   | Support to outreach in nanotechnology - CSA   |                                     |
| 4.1.1-5   | Study about human resources needed in EU to develop and apply nanotechnology – CSA          |                                     |
| 4.1.2 Nanotechnologies and converging technologies (3 topics) |   |                                     |
| 4.1.2-2   | Development of new nanotechnologies for the protection of high value goods - LA             | SICA - Africa                       |
| 4.1.2-4   | Converging technologies for water of targeted purity - SME                                  | SME<br>Coord. Theme 6 / ENVIRONMENT |
| 4.1.2-5   | Nanotechnology-based new solid and/or improved liquid fuels - SM                            | Coord. Theme 5 / ENERGY             |
| 4.1.3 Health and Environmental Impacts (3 topics)             |   |                                     |
| 4.1.3-1   | Validation, adaptation and development of risk-assessment tests for nanoparticles - LA      |                                     |
| 4.1.3-2   | Risk assessment of engineered nanoparticles on health and the environment - SM              | Coord. USA + Int'l                  |
| 4.1.3-3   | ERANet on the impact of nanoparticles on health and the environment                         |                                     |

|              |   |                        | Comments                                 |
|--------------|---|------------------------|--|
| <b>4.2.1</b> | <b>Mastering nano-scale complexity in materials</b>                               | <b>(2 topics)</b>      |  |
| 4.2.1-1      | Nano-structured membrane materials - SM   |                        | EuMat                                    |
| 4.2.1-1      | Processing and upscaling of nano-structured materials - SM                        |                        | EuMat; MicroNanoManufact                 |
| <b>4.2.2</b> | <b>Knowledge-based smart materials with tailored properties</b>                   | <b>(2 topics)</b>      |  |
| 4.2.2-1      | Non-(Si,Ge) based semiconductors for electronics and photonics - LA               |                        | Photonics / Nano-electr. Complem. To IST |
| 4.2.2-2      | Nano-structured meta-materials - SM   |                        | Photonics                                |
| <b>4.2.3</b> | <b>Novel material and bio-inspired materials</b>                                  | <b>(2 topics)</b>      |  |
| 4.2.3-1      | Advanced implants for critical organs such as heart, liver and pancreas – SM      |                        |  |
| 4.2.3-2      | Biomimetic gels and polymers for tissue repair in arthritis and osteoporosis – SM |                        |  |
| <b>4.2.4</b> | <b>Advances in chemical technologies and materials processing</b>                 | <b>(2 topics)</b>      |  |
| 4.2.4-1      | Inorganic-Organic Hybrid Materials - SM   |                        | SusChem                                  |
| 4.2.4-2      | Radical advances in the processing of multifunctional films and tapes - SM        |                        | European Roadmap Superconductivity       |
| <b>4.2.5</b> | <b>Using engineering to develop high performance knowledge-base materials</b>     | <b>(2 topics)</b>      |  |
| 4.2.5-1      | Functionally graded materials - SM  |                        | Eumat                                    |
| 4.2.5-2      | Modelling of interfaces for high performance materials design - SM                |                        | Suschem Eumat                            |
| <b>4.2.6</b> | <b>Coordinated activities and international cooperation</b>                       | <b>(4 topics)</b>      |  |
| 4.2.6-1      | Materials for Energy applications - SM  | Joint - Theme 5/ENERGY | Suschem / Hydrogen /Fuel Photovoltaics   |
| 4.2.6-2      | Computational Materials sciences - SM   | Coord. India           |  |
| 4.2.6-3      | Coordination actions with Materials researchers from major world regions - CSA    | Coop-tion World        |  |
| 4.2.6-4      | ERANET PLUS on Materials  |                        | ERANET PLUS                              |

Comments

**4.3.1 Development and validation of new industrial models and strategies (2 topics)**

**4.3.1-1 Transformation strategies for SMEs in turbulent global market environments - SMEs**



Manufature – LEADERSHIP Roadmap – MAP for SMEs

**4.3.1-2 Monitoring the implementation progress of European strategic initiatives in industrial technologies - CSA**

**4.3.2 Adaptive production systems (4 topics)**

**4.3.2-1 Self-learning production systems - SM**

Manufature –LEADERSHIP Roadmap

**4.3.2-2 Intelligent complex manufacturing systems and equipment for processing and handling of biological materials - SM**

In agreement with Theme2/FOOD – innovative process technologies for food processing factories

**4.3.2-3 Improving quality and reliability of intensified components & devices and application of alternative forms of energy for process intensification - SM**

SusChem – MAP for process intensificfation

**4.3.2-4 Support for inter-regional manufacturing communities following IMS strategy update - CSA**

IMS preparation action – in coord. with IST

**4.3.3 Networked production (1 topic)**

**4.3.3-1 Supply chain integration and real-time decision making in non-hierarchical manufacturing networks- SM**

Manufature – LEADERSHIP roadmap for networked factories

**4.3.4 Rapid transfer and integration of new technologies into the design and operation of manufacturing processes (3 topics)**

**4.3.4-1 Rapid design and virtual prototyping of factories – LA**

Manufature – Leadership roadmap for virtual factories

**4.3.4-2 Industrialisation through new integrated construction processes - SMEs**



ECTP – Transformation of construction engineering environment

**4.3.4-3 Automation and robotics for sustainable crop and forestry management - SM**

Manufature-Agro Eng. Sub platform – in agreement with Theme 2 / FOOD

**4.3.5 Exploitation of the convergence of technologies (1 topic)**

**4.3.5-1 Volume production process chains for high throughput micro-manufacturing - LA**

Manu future. –MINAM subplatform – MAP for micro-manufacturing

## Activity 4.4 Integration of technologies for industrial applications (18 topics)

### NMP - Year 2

Large

Small

Other

Comments

|          |  |             |  |
|----------|--|-------------|--|
| 4.4.0-1  | Substantial innovation in the European medical industry: development of nanotechnology-based systems for in-vivo diagnosis and therapy (musculo-skeletal, diabetes, inflamm.) - LA |             | Coord. Theme 1/HEALTH  |
| 4.4.0-2  | Catalysts and processes for the sustainable production of fuels - LA   |             | (Environmentally benign production of transportation fuels) SusChem                          |
| 4.4.0-3  | Multifunctional construction materials - LA  | ESTEP, ECTP | Cross-thematic –ECTP/ESTEP/Forestry  |
| 4.4.0-4  | Integrated, cost-effective, volume-production lines for nano-technology enabled applications - LA  |             | Manuf. –MINAM subplatform – MAP for surface technologies EuMat; Micro-NanoManufact           |
| 4.4.0-5  | Expanding the limits of advanced materials processing applications through a new generation of high brilliance lasers - LA   |             | Photonics 21 – in agreement with ICT   |
| 4.4.0-6  | Sustainable new products for new markets through bio-production of green forest based chemicals and materials - LA   |             | Forestry TP – in collaboration with SUSCHEM  |
| 4.4.0-7  | Innovative concepts and processes for new high added value mineral-based products - LA   |             | Sust Min Res TP – MAP for securing supply of high value raw materials                        |
| 4.4.0-8  | Customer driven development of sports, medical, paramedical and wellness applications with functionalized textiles - LA  |             | Textiles TP – in collaboration with sports tech sub-platform in Manufacture                  |
| 4.4.0-9  | Healthy, safe, accessible and stimulating built indoor environments - LA   |             | ECTP – MAP for energy efficient and intelligent buildings – SUSCHEM/energy related platforms |
| 4.4.0-10 | Reducing the risk of injury in complex systems through advanced personal protective equipment and clothing - SMEs  | SME         | Cross TP collaborative topic: Safety & Textiles TP   |
| 4.4.0-11 | Adding value in the footwear industry – differentiated consumer-centred products through the integration of new technologies and materials - SMEs                                  | SME         | Manufacture-Footwear/Sports eq. sub-platform   |
| 4.4.0-12 | Nanotechnology-based fixation of CO2 - SM  |             | Coord. Theme 5/ENERGY  |
| 4.4.0-13 | Nano- and converging technology for security - CSA   |             |  |
| 4.4.0-14 | Presidency-related events - CSA  |             |  |
| 4.4.0-15 | NCP transnational activities - CSA   |             |  |
| 4.4.0-16 | ERANET on Nanomedicine   |             |  |
| 4.4.0-17 | ERANET on trans-national cooperation for new innovative products in the forest-based value chains  |             |  |
| 4.4.0-18 | ERANET on micro and nano manufacturing   |             |  |

- **Données**
  - **Gérés par les thématiques auxquels ils se rapportent**
  - **Idéologie et réalités** ( Renforcement coopération européenne, efficacité, durabilité...)
  - **Centres de dépenses**
- **Discussion**
  - **Évaluation**
  - **Instrument standard ?** (Réseau ou génération de projets sur fonds nationaux; profil des acteurs)
  - **Conditions d'existence**
  - **Positionnement / Eurêka**
  - **Avatar des EPT ?**
  - **Liens avec Pôles ?**