

**Ecsite Annual Conference – 2007 Lisbon, Portugal**  
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**SESSION ABSTRACT:**

**"Duds all round: where the millennium millions sank"**

According to the view of a wise old design consultant who has worked for science centres for the last 40 years, a goodly part of all projects, dealing with the enhancement of public understanding of science and the humanities, are massively flawed. Capital budgets are not met, the objectives are missed, constant operational struggles and financial instabilities are too often the on-going frustrating reality. It has been said of the UK millennium projects, that "More than half the projects have either closed, opened late or encountered serious problems." Indeed, most have encountered serious *operational* problems.

Why is that so, and what are the secrets of those projects that were set up successfully, and their operations are solid? And what is the role these professional for-profit service suppliers, such as consultants, designers and fabricators, that constantly trundle from one project to another? They gather information and experience while accomplishing their work, and they should know how to improve the quality of projects and increase the success rate.

This session should give representatives of the commercial suppliers - consultants in planning, design and financial control - a chance to say their truths, and help potential new projects to avoid pitfalls.

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**Operating the Millennium Centres**

When the Millennium centres were planned, the Commission assured local authorities that the centres could and would be self-supporting, and self-sufficiency became a requirement of successful project proposals. The result has been the failure of two projects and stringent cost-cutting by most. Governments have begun some realistic operating support, and after various changes of management, each centre has come to a modus vivendi, but in most cases, a very lean one.

## All Duds?

### The UK Millennium Science Centres

To err is human

Anderson

P.

1

## Learning from mistakes

Comparisons:

Exploratorium

Ontario Science Centre

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## Exploratorium

Frank Oppenheimer – vision  
Imagination, dedication, string and wire  
Very little money  
Donated building  
Opened doors quietly during building, 1969  
Large floor staff from the beginning

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## Ontario Science Centre

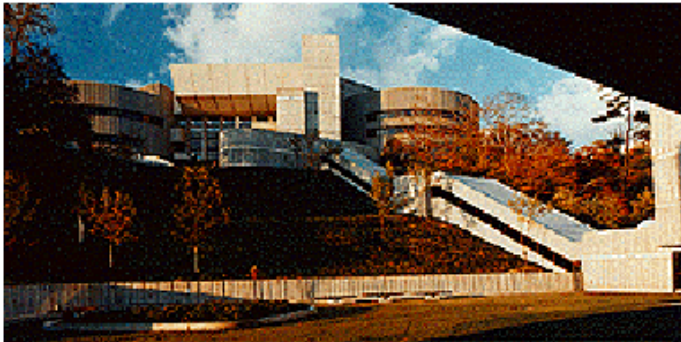
Government (Ontario) Centennial Project for 1967  
Vision developed during the project  
Started as a museum, changed to a science centre  
Museum Director replaced  
Expensive - escalating scale & budget (willingly!)  
Opened two years late, October 1969  
Developed floor staff 1971 due to obvious need

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The Exploratorium

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Ontario Science Centre

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## Ontario Science Centre and Exploratorium

### Similarities:

- Both had time for development of a vision
- Neither had overbearing controlling bureaucracies
- Neither had clear precedents
- Both were developed by in-house staff and volunteers

## Ontario Science Centre and Exploratorium

### Differences:

- The Exploratorium had a strong leader with a vision
- The OSC's vision grew during development
- The Exploratorium had more brains than money
- The OSC had brains and money in balance



Glasgow Science Centre



Sensation, Dundee



Centre for Life, Newcastle

## UK Millennium Projects

Not all the same, but .....

- Most started for urban renewal, not science learning
- Starting visions not clear (most cases)
- Massive bureaucratic intervention – no funds for staff
  - Millennium Commission
  - ERDF
- **Rushed development, with little time for learning**
- **Heavy commitment to operating self sufficiency**

## The Operating Phase

- Unrealistic operating budgets were almost mandatory
  - Millennium Commission commitments to cities
- Additional funding tied to new exhibits
- Most centres unable to develop and rectify errors
- Governments slow to accept the crises and act

## All Duds???

**No!!**

Two failed, but .....

- There are 11 good centres that were not there before
- Hundreds of knowledgeable science centre staff
- Millions of children have hands-on learning
- Nine needy UK cities have bright new stars in them

## Could it have been better?

Yes!!

There were serious errors and inefficiencies

Is this unusual?

Not really!

- Government projects rarely run smoothly or economically
- New Science Centres usually have lumps and bumps in their developments
- We want innovation, but it usually brings problems

**Were there exceptions?? Yes ...**

- The Eden Project – large, good vision,
- The Deep – good vision, economical aquarium operation
- Centre for Life – good operational financial planning.

## The most expensive Millennium learning experience



The Millennium Dome!!

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**Spending the Millennium Millions – What Would We Do Differently?**

Lottery funding for Millennium projects provided an unprecedented and welcome injection of funds for museums, science centres and similar projects in the UK. Yet all was not well in this time of plenty. Because of requirements for ‘statement’ buildings, the need to meet an artificially significant deadline or an ill-considered operational strategy, opportunities were lost. We review some of the challenges posed during this unique period. Can lessons be learned?

**Spending the Millennium Millions**

What Would We Do Differently?

greenwayassociates

What we do

- Cost management
  - Feasibility studies
  - Cost planning
  - Procurement
  - Postcontract cost control
  - Tax analysis

Millennium Opportunities

- Up to 6% of total development
- 2.5 billion Euros projected distribution across UK

The Millennium Challenges – Part 1

- First time clients
- Content secondary to architecture
- Inappropriate consultant teams
- Challenging interdependencies on teams


..... nothing new here

The Millennium Challenges – Part 2

- Funding deadlines
- Funding for capital development only
- No opportunity for organic growth
- Query option into operational assessments

The Challenges - Part 3


- cost of projects; limited resources
- In the spotlight ... of the media
- In the shadow ... of the Dome



- Were these problems new?
- Was it really that bad?
- Did these make these projects 'duds'?


The 'Duds'

- The Big Idea, Inisle
- The Earth Centre, Doncaster
- National Centre for Popular Music, Sheffield



The 'Dudettes'

- Glasgow Science Centre
- @ Bristol
- Sebastian, Dundee





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The Challenges – Specific to Cost Control

- 2. The right team
- 4. Effective project management
- 6. Progressive cost control
- 8. Operational costs

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1. The Right Team

- The critical aspects
  - The Client
  - The Project Manager
  - The Designer
  - The Cost Adviser
  - The Specialist
  - The Construction Manager

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1. The Right Team

- Pick the right individuals
  - The Project Manager
  - The Cost Adviser
  - Construction Manager

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2. Project Management

- Establish team structure
- Inform and progressive programme
- Define Interface with Base BUILD
- Meetings – with purpose

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2. Project Management

- Define Interface with Base BUILD

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2. Project Management

- Define Interface with Base BUILD
  - Completion Dates
  - Site access
  - Disturbance

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3. Cost Control

- Cost planning
  - Progressive
  - Informed
  - Value judgement
  - Key stage: Concept Design – RIBA Stage C
  - Key stage: Scheme Design – RIBA Stage D

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3. Cost Control

- Key stage: Concept Design – RIBA Stage C

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3. Cost Control

- Key stage: Concept Design – RIBA Stage C
  - Benchmarking
  - Prototyping
  - Contingency
  - Performance Contingency

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3. Cost Control

- Key stage: Scheme Design – RIBA Stage D

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3. Cost Control

- Key stage: Scheme Design – RIBA Stage D
  - Drawn details
  - Programme
  - Trade packages
  - Marketing

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4. Operational costs

- Start-up
- Spaces
- Maintenance
- Exhibit replacement/refresh

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Dynamic Earth, Edinburgh


- Exhibit budget: £6.5m (lib)
- Exhibit final cost: £6.5m (lib)



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Centre for Life, Newcastle

- Exhibit budget: £1m (lib)
- Exhibit final cost: £10.7m (lib)



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Glasgow Science Centre

- Exhibit budget: £9,570,000
  - part of £20m (lib) fit out works
- Exhibit final cost: £9,356,000
  - included £214,000 for robes



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## Conclusions

- Did it all round...?
  - I think not
- Could the money have been spent more effectively?
  - In some cases undoubtedly 'Yes'

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## Conclusions

- Preparation
  - Its value simply cannot be overestimated
- People
  - Projects are people-related
  - Appoint the right team
    - Client
    - Consultants
    - Contractors

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## Finally

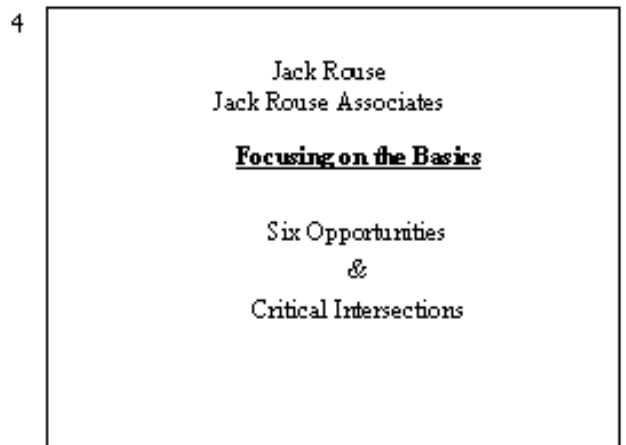
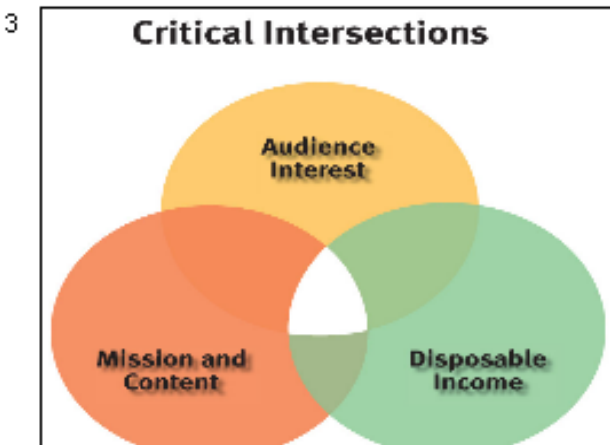
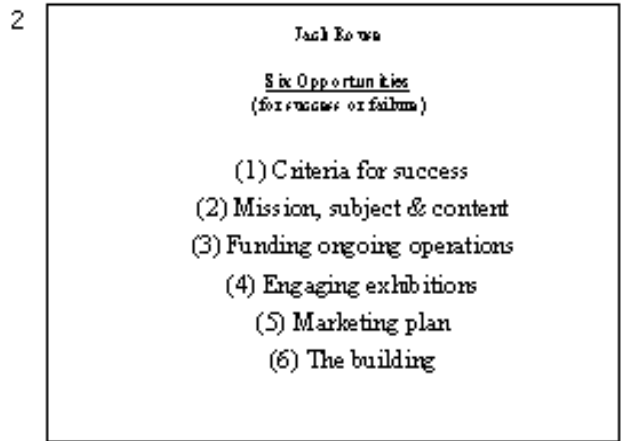
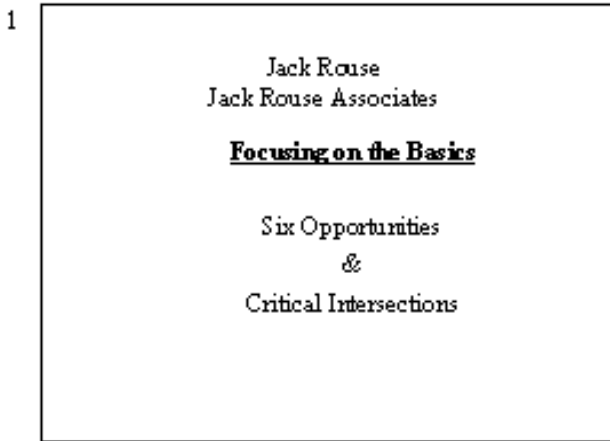
- Create the Team
- One team, one project, one vision
- Communicate it

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**Learning from Failed or Marginal Projects**

The development of successful new projects rests on five primary pillars: (1) a mission, subject and content that potential audiences care about, (2) a plan for funding the ongoing operation based on realistic projections of earned and non-earned revenue, (3) an engaging approach to exhibitions and attractions with a strong audience focus, (4) a marketing and public relations plan that aligns with the target market and the exhibitions and attractions and (5) a building that is audience-centric and that compliments the mission, exhibitions, attractions and operations. In a perfect world these should be approached in that order. Far too often there is a rush to do (5) and then (3); often ignoring the other three altogether until it is too late. Not surprisingly, the result is often a disaster.



## ANNEX

(posted on the BIG Mailing List: 29.10.2006/aeh)

The Sunday Times, October 29, 2006:

### Duds all round: where the millennium millions sank

Roger Waite and Dipesh Gadher

IN Glasgow the revolving tower is stuck fast, Portsmouth's waterfront landmark opened five years late, and near Doncaster a showcase for eco-friendly living is to be bulldozed to make way for a housing estate.

The troubled schemes were all funded with millions of pounds from the national lottery by the millennium commission to provide a lasting statement about Britain in the year 2000.

As the commission prepares to wind up at the end of the year, however, an audit of projects has shown that much of the commission's £2 billion was "squandered". More than half the projects have either closed, opened late or encountered serious problems.

Most notorious was the Millennium Dome, repeatedly bailed out with more than £600m of lottery money -- and still costing £30,000 a month, despite being sold to Philip Anschutz, the American entertainment mogul.

Others include the Bath Spa project, which opened in August three years late and £30m over budget, of which £8m came from the millennium commission. Last week its showpiece rooftop pool closed for four days after an electrical fault.

Critics argue that many of the projects were misconceived, others were put in the wrong place or should never have been financed by the lottery. "The dome is the living embodiment of what has become a liability rather than a legacy. A lot of what was done at the time of the millennium was money unwisely spent," said Hugo Swire, the Tory culture spokesman. "We could have done an awful lot more in a lot of areas. I feel it was a squandered opportunity."

Mike O'Connor, director of the commission, pointed instead to successes such as the Eden project in Cornwall, the Lowry arts centre in Salford, Greater Manchester, and the Tate Modern gallery in London, as well as scores of small-scale schemes.

"Any visitor attraction has got to survive in a competitive market, so some of these projects do face challenges, but of the 225 projects we have funded, only three have closed," said O'Connor. "I think it is a good record."

He is now interim chief executive of the lottery body allocating funds to the Olympics, which has generated £60m of its £750m target. The millennium commission was set up in 1994 by the Tories to share 28p in every pound spent on national lottery tickets.

The commission was retained by Labour and used as part of its "cool Britannia" project to promote the image of a forward-looking country.

Chris Smith, Labour's first culture secretary, said in 1997 that millennium projects would "reflect the aspiration and achievements of the British people as we cross the threshold of the year 2000".

The Sunday Times has examined the record of 43 landmark millennium attractions -- at sites that received at least £1m of lottery money. Of these, three have closed because of a lack of visitors and at least 11 opened late -- the worst being the Spinnaker Tower in Portsmouth, which admitted visitors in October last year, five years late.

"The millennium commission let us down badly, it let the project be degraded," said Mike Hancock, Liberal Democrat MP for Portsmouth South. "It's an appalling series of cock-ups."

Another 12 projects have had problems ranging from technical failings to budget overruns which have required bailouts from the taxpayer.

The Glasgow Science Centre, which received £37m, promised that visitors to its 400ft tower would be able to gaze at panoramic views as it rotated. The tower, which has attracted 46,000 visitors, has been closed since January last year after a breakdown in which four children and six adults were trapped 165ft above the ground. No date has been set for reopening.

John Mason, a Scottish National party councillor in Glasgow, said: "It has obviously been a complete waste of money. We are an engineering nation but this simply hasn't worked. Heads should roll."

Despite its failures, the Glasgow attraction has been blamed for siphoning off visitors from another millennium project 30 miles away -- a science centre called the Big Idea in Irvine, Ayrshire. It closed in 2003 and is set to become a conference centre when the surrounding area is converted into a five-star golf course.

The most notorious failures included the Earth Centre, an environmental attraction near Doncaster, South Yorkshire, which received £36m to rescue an area of slagheaps. It closed in 2004 after disastrous visitor numbers.

The part of the site owned by the millennium commission -- which had hoped that the centre would showcase environmentally friendly lifestyles -- has been sold to a housing developer for a reported £5.7m.

*/Additional reporting: Iain Hollingshead/*

## Reactions on the BIG Mailing list:

Lewis Pile, 29.10.2006

What a depressing, and rather one sided article.

There are a number of millennium projects that haven't worked, yes. But how many projects with other funding streams have failed?

The millennium dome - was it a thing that was meant to make money? It was always going to be a failure on that basis, never planned to have the lifespan to make it a viable financial proposition. You can argue whether or not it was a suitable thing to do, but it's a very different beast to all the others.

Things opening late?... it's more a miracle that they opened on time: How late is Wembley?

Things breaking?... sorry guys they do. Just because something fancy has broken doesn't mean it was a bad idea to put the money in, nor that it won't be fixed.

A rooftop pool is shut for 4 days because of an electrical fault? God, how desperate are you for "bad" stories? If they'd kept it open doubtless there would have been a story about the health and safety risks.

3 closing out of 225, or even 43... Is that such a bad track record? There are some amazing projects that have come out of the millennium funding. Projects funded from other routes, with longer planning times have failed too, or has everyone forgotten the museum of popular music in Sheffield?

I don't know what their axe is... but it's clear there is one, and they're grinding it rather too blatantly.

Lewis.

Regan Forrest, 01.11.2006

I think this highlights the cynicism of the British media, and the way that if there is something they don't like they will always find the "bad news" story.

Take the Dome as a case in point: in the year 2000, it was the most visited paid-entry attraction in the UK. So on one level you have to concede it was successful. The problem with the Dome was a business plan based on wildly optimistic visitor numbers: from memory they assumed something like 12 million visitors, and only (!) got 6 million.

Personally I think the idea of attracting 12 million visitors, i.e. 1 in 5 Britons, to a relatively inaccessible part of Greenwich in the space of a year was pretty insane. But I think in hindsight we can see the political context which drove the forecasts up. (And from a content side, anything set up to carry as much political baggage as that particular project was bound to have a few howlers)

Colin Johnson, 01.11.2006

Hmmm, Regan ...

The Great Exhibition of 1851, admittedly in Hyde Park rather than Greenwich

- was open to the public for just 141 days

- charged 5 shillings (equivalent of £12.50 today) for entry for the first 21 days, and 1 shilling thereafter

- made a surplus which has been variously reported, but in all cases the quoted net profit exceeds the original capital cost of the building

- like the Dome, was visited by just over 6 million people (when the population of Britain was half what it is today).

The legacy, of course, included the S Kensington museums.

Colin Johnson

Richard Ellam, 01.11.2006

But, the Great Exhibition was about the only International Exhibition EVER to make a profit, and there was much less competition in 1851 than there was for the millennium dome - a good deal of the success of the 1851 exhibition was due to people coming on cheap excursion trains on the new railways - for many the first train trip and their first (sometimes only) visit to London. The GE was also enthusiastically hyped by the press, which conspicuously didn't happen in 2000.

Hope this helps

Richard Ellam.

Regan Forrest, 01.11.2006

All true. . . .

But Colin makes a great point about legacy: 1851 gave us the Sth Ken museums, 150 years later we get a casino!

I don't know what (if anything) that says about society then and society now - make of it what you will..... :-)

Ian Simmons, 02.11.2006

It is true that the Gt Exhibition gave us the S.Ken Museums, but if you look at the Millennium Dome, it could be argued that all us millennium science centres are the equivalent spin off as we all came from the same urge to create landmarks as the Dome. I always reckoned the Dome was a great success, getting 6 million visitors in a year with no real content to sell and lousy transport links was awesome, it was second only to Eurodisney (as was) in numbers that year, but it was the marketing that was dreadful, setting up expectations of a clearly (to anyone in the business) unachievable 12 million.

IAN

IAN SIMMONS