

# YRD Green Pulp Partnership

Reinier de Man  
Frank Croon

Helsinki, May 21-22

on behalf of OASE Foundation  
Amsterdam

# Frank Croon

- Frank Croon
  - Arcadis Euroconsult, principal consultant until ...
  - Croon Consult
  - OASE foundation



- working in China
  - from 1982: land reclamation and salinity control
  - Yellow River Delta from 1984: 5 studies and 2 implementation projects
  - large network within local government and the locally important Shengli Oilfield

- OASE foundation
  - A foundation established in 2005 with the objective to promote: investigation in, and research of biosaline systems and their implementation.
  - The OASE foundation is an offshoot of IMSA and ODE (Ocean Desert Enterprises) is supported by Multinational Companies and foundations



# Reinier de Man



- developing sustainable business

- cooperation in the supply chain
- stakeholder engagement
- commodity roundtables



- working for paper industry

- OPTI-project (Norske + Axel Springer ..., 1996-1999)
- several projects with Axel Springer (Finland, Russia)
- organising ICC/UNEP award for AS, UPM, ...
- stakeholder communication for FFIF, 2002-2004
- advising VDZ on strategic issues 2002 - ...

- working with Finnish paper companies

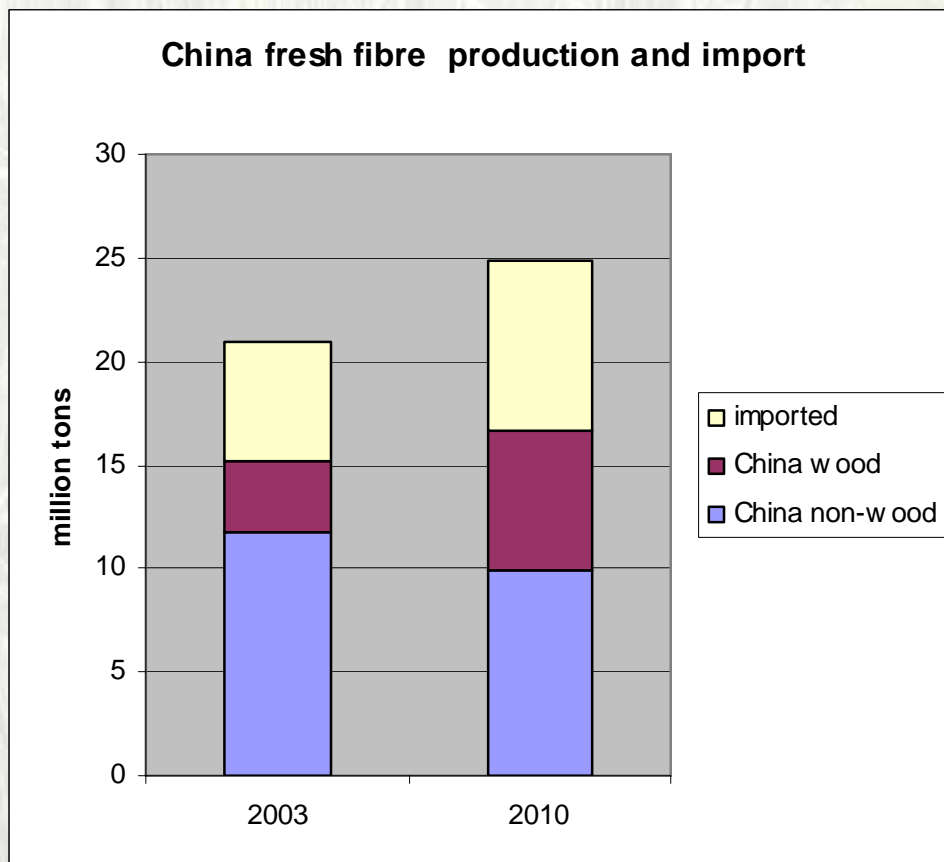
- in first phase of OPTI (1996)
- UPM Kymmene workshops (2001-2002),
- in the framework of FFIF project (2002-2004)
- Stora Enso Tikhvin project
- VDZ/UPM/SE missions to Russia 2004. 2005



# Part I

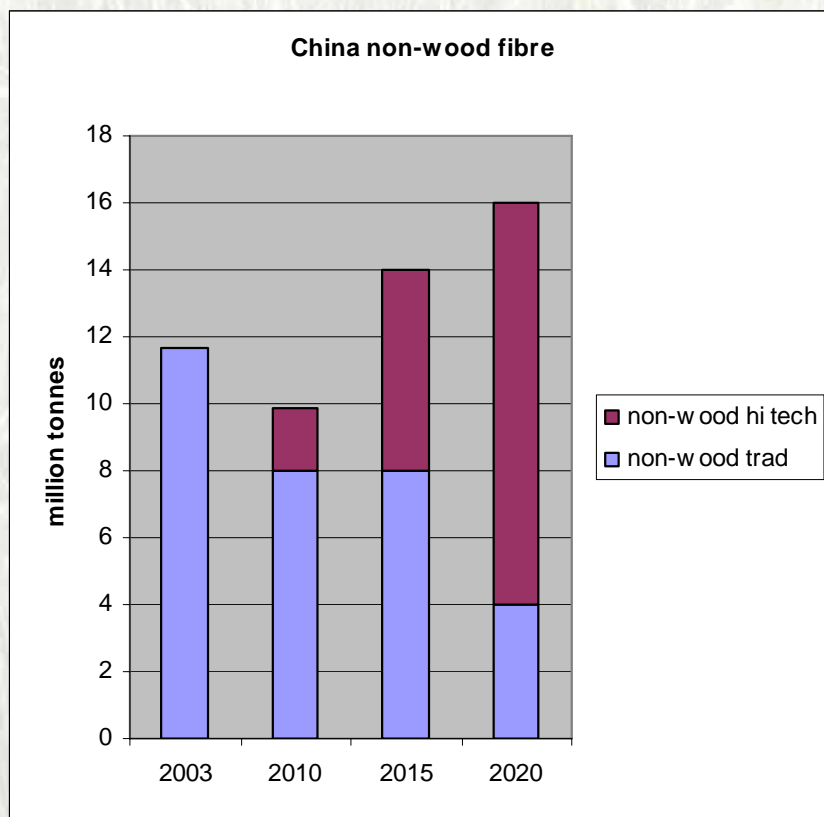
## Chinese demand for non-wood pulp

# Fibre for Chinese paper



- development
  - modern paper industry expanding
  - traditional chinese non-wood paper industry declining
  - growing demand for high quality fibre
  - limits to DIP availability
- future growth
  - Chinese plantations
  - imported BHKP from South America, S.E. Asia
  - → **revival of non-wood, only if environmental problems solved**

# Chinese non-wood fibre: a scenario



- traditional non-wood
  - will be strongly reduced
  - mainly for environmental reasons
- high-tech non-wood
  - will grow considerably
  - total non-wood 2015 = 14 million tons (Jaakko Pöyry)
- need for even more non-wood fibre
  - planning problems with Chinese plantations
  - costs/availability BHKP from South America

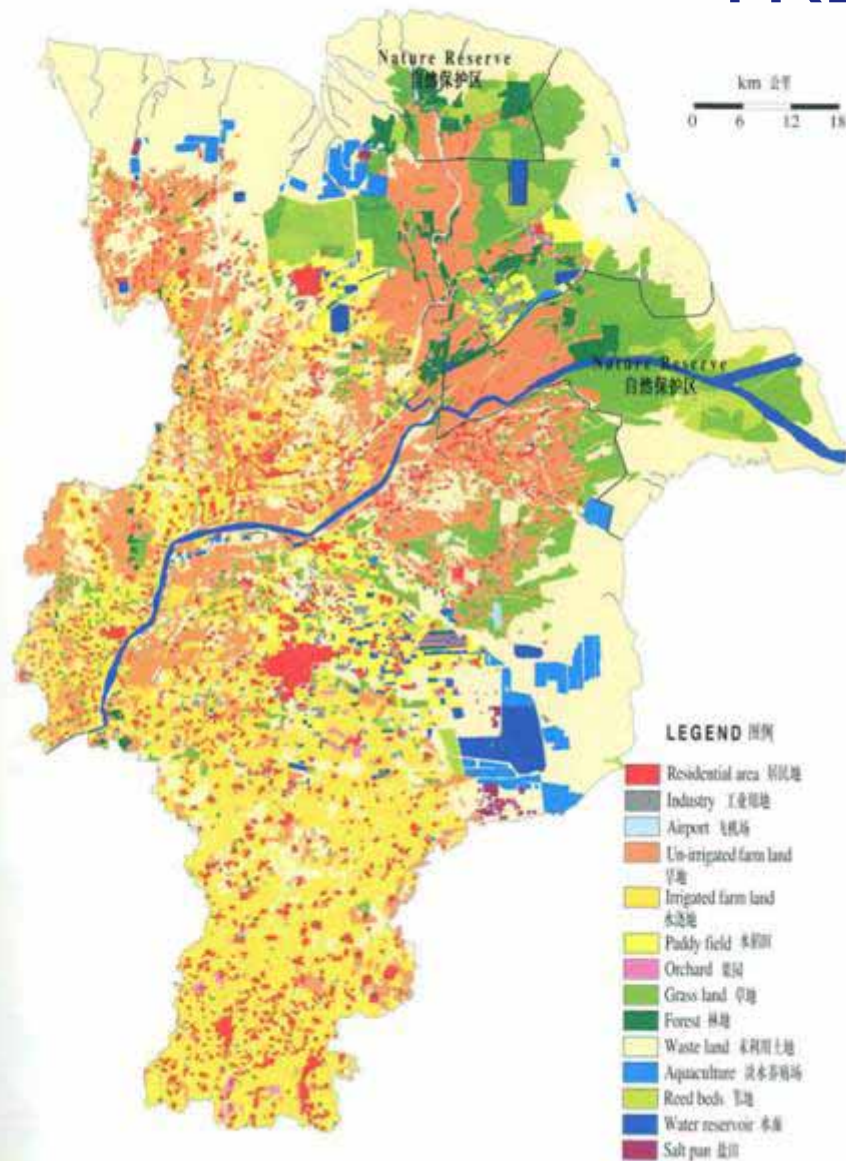
## Part II

# reed & baby bamboo from YRD

# YRD's location

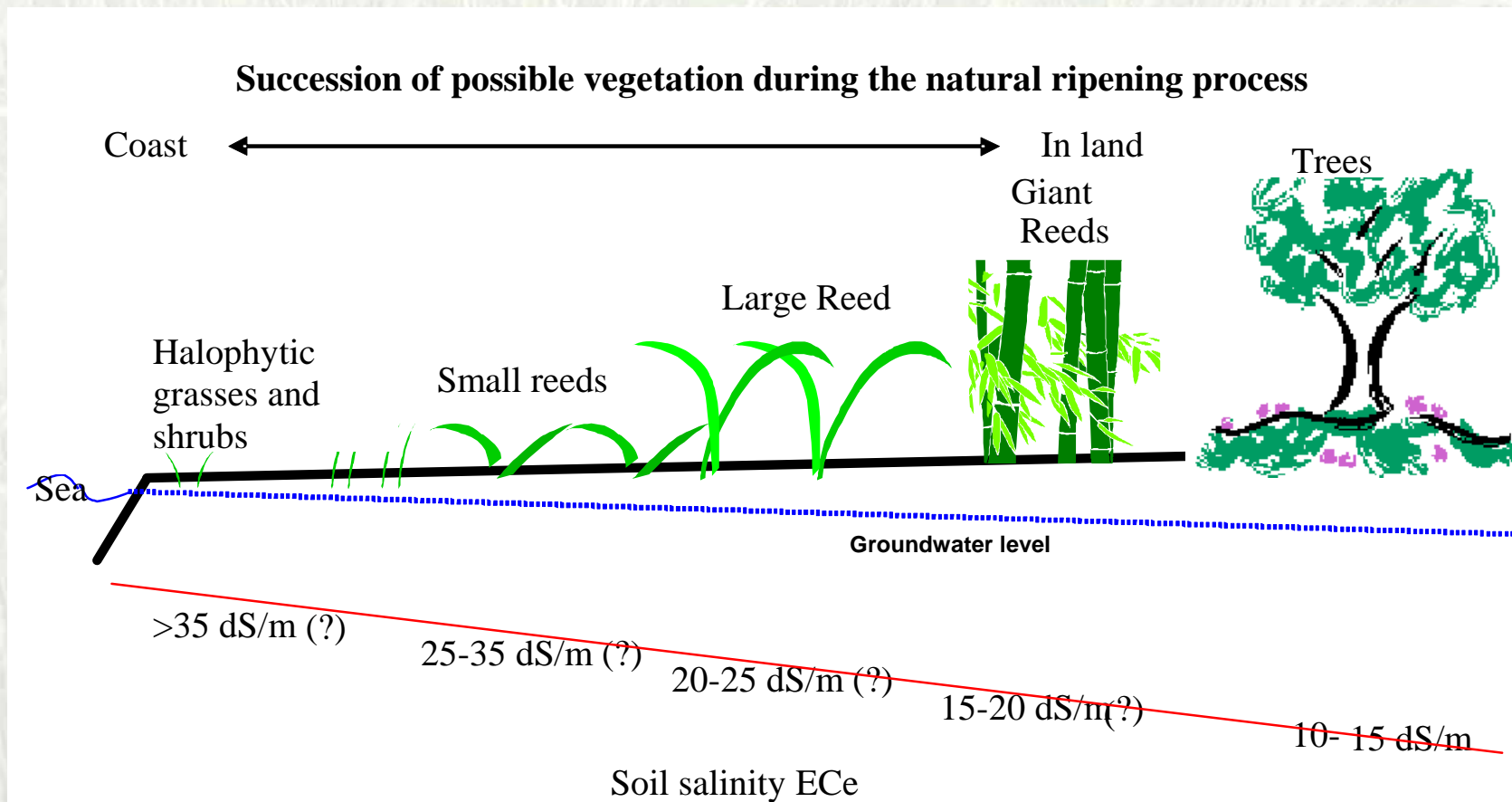


# YRD, land use



- YRD area
  - still expanding delta
  - 7800 km<sup>2</sup>
  - 2800 km<sup>2</sup> saline coastal soils
  - total 'wasteland' about 3000 km<sup>2</sup>
  - reed cultivation > 1000 km<sup>2</sup>, also for paper industry
  - traditional paper mills being closed down
- central city: Dongying
  - 1.8 million inhabitants
  - administrative capital of delta's major parts

# Natural vegetation succession



# Baby bamboo & reed



- baby bamboo
  - 25 dry t/ha/year
  - more demanding, need for fertilisers

- reed
  - 3-18 dry t/ha/year
  - average = 15 t/ha/year



# Reed from Hekou

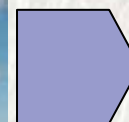
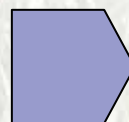
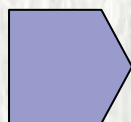


## Part III

# a green pulp mill

# The Pulp Mill: basic parameters

(100,000 / 300,000 t pulp mill)



- YRD cultivation area
  - reed + baby bamboo + wood
  - 10,000 – 20,000 ha (30,000 – 60,000) ha

- fibre
  - reed + baby bamboo + wood
  - 200,000 – 230,000 (600,000 – 690,000) t p.a.

- Modern pulp mill
  - high quality pulp output at market prices
  - environmentally friendly
  - socially responsible

- bleached pulp
  - 100,000 (300,000) t p.a.

# Part IV

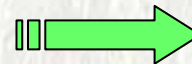
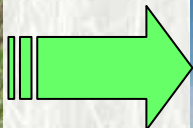
## organisation & governance

# The final result

high quality  
reed production

high quality  
pulp production

high quality  
paper production



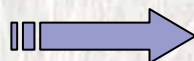
market pulp



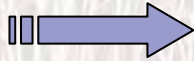
YRD reed & other crops

Green Pulp Mill

Chinese eucalyptus  
Indonesian acacia  
S. American eucalyptus  
+ non wood  
  
Chinese waste paper  
imported waste paper



+ fresh wood  
fibre pulp



+ DIP pulp



Paper Mill

# YRD Green Pulp Partnership: objectives



- The YRD Green Pulp Partnership
  - is a temporary organisation for the duration of the project (2-5 years): setting up a supply chain for green pulp from YRD.
  - is a public private partnership for financing the development of fibre and green pulp production
- Objective 1: fibre production
  - develop secure fibre supply from YRD (reed, baby bamboo & wood)
    - high technical quality and good logistics
    - acceptable price
    - socially and economically responsible
- Objective 2: pulp production
  - construct state-of-the-art pulp mill with YRD fibres as its main input
    - high technical quality pulp, good logistics
    - minimal or no discharges or within strict environmental norms
    - acceptable pulp market price
    - socially and economically responsible

# YRD Green Pulp Partnership: Financial Partners



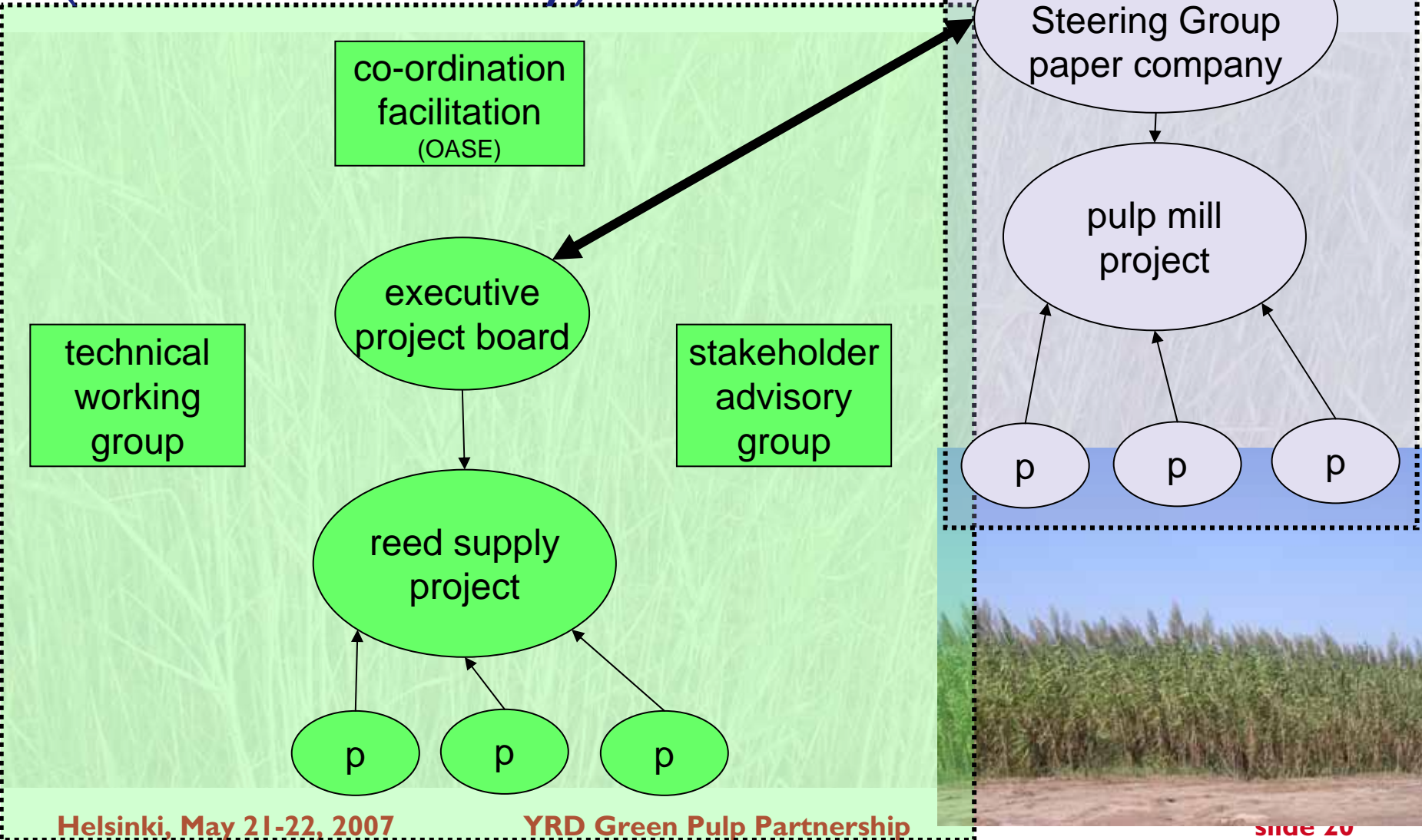
- Private sector
  - Chinese and/or European paper company
  - Raw material producers
  - other commercial players (including paper customers) as required
- Public sector
  - Chinese public sector
    - National and Provincial Government
    - Dong Ying Municipal Government, Hekou District Government
    - Ministry of Forestry
  - Public players from other countries / international organisations
    - development organisations from Europe and other countries
    - UNIDO, UNDP, UNEP ...
    - ...

# YRD Green Pulp Partnership: other partners



- Knowledge suppliers
  - agricultural and environmental experts
    - Chinese experts: YRD CDRC,
    - consultants
    - Chinese and European Universities
  - pulp technology experts
- External stakeholders
  - environmental NGO,
    - e.g. WWF
  - social NGO
    - ...

# Project Structure and Responsibilities (for discussion only)



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