

# RadExPro seismic software for 2D/3D data QC and infield processing



#### History

The software took its origin in 1992 at the Geophysical Department, Faculty of Geology, Lomonosov Moscow State University and, since then, has been continuously developed and advanced.

In 2001 when the DECO Geophysical company was founded, the software transferred to the company together with its initial authors.



Lomonosov Moscow State University main building



The software provides all necessary facilities for 2D/3D seismic data QC and fast-track processing, either in field of at the office.

It is used for these purpose in a number of service and oil-and-gas companies both inside Russia and abroad, including *Bashneft*, *Novatek*, *Largeo*, *NIS-Naftagas*, *MM-Geo*, etc.

Russian office of *FairField Nodal* company offers RadExPro as a standard solution for infield processing and QC, coming together with their seismic systems.









On Windows:



#### **Easy to install**

- Does not require administrative expertise

## Easy to learn and to use

- Intuitive graphical interface
- Manual and tutorials available

#### No specific hardware required

-Operates smoothly on just an average up-to-date laptop or desktop computer

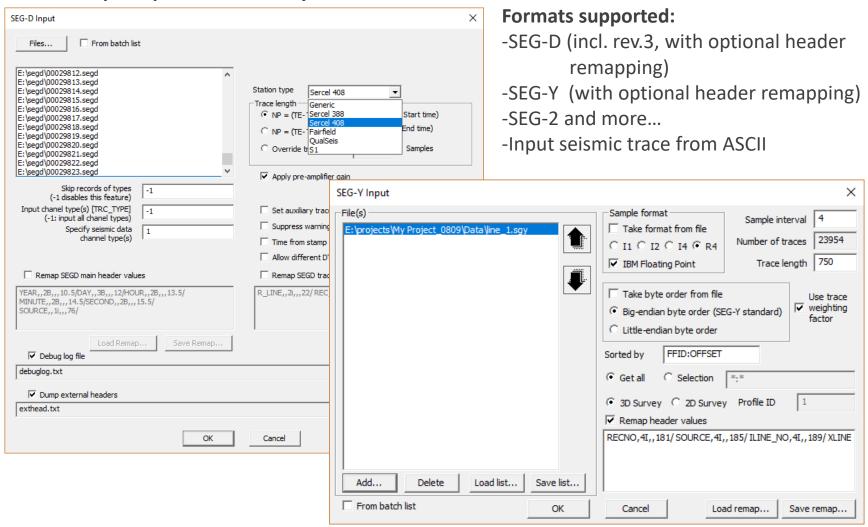


# Infield QC

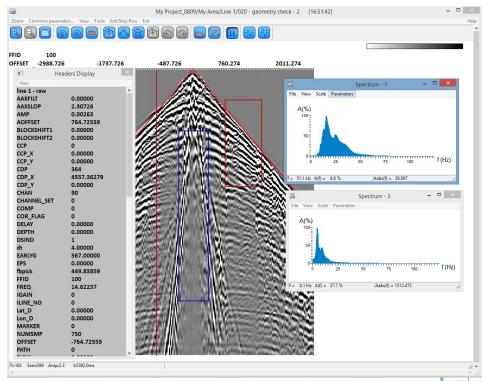


#### for infield QC and fast-track processing

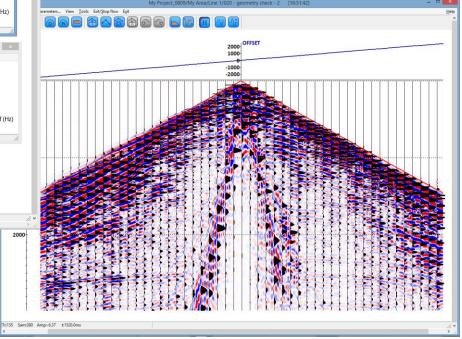
#### Rapid input of data of any size



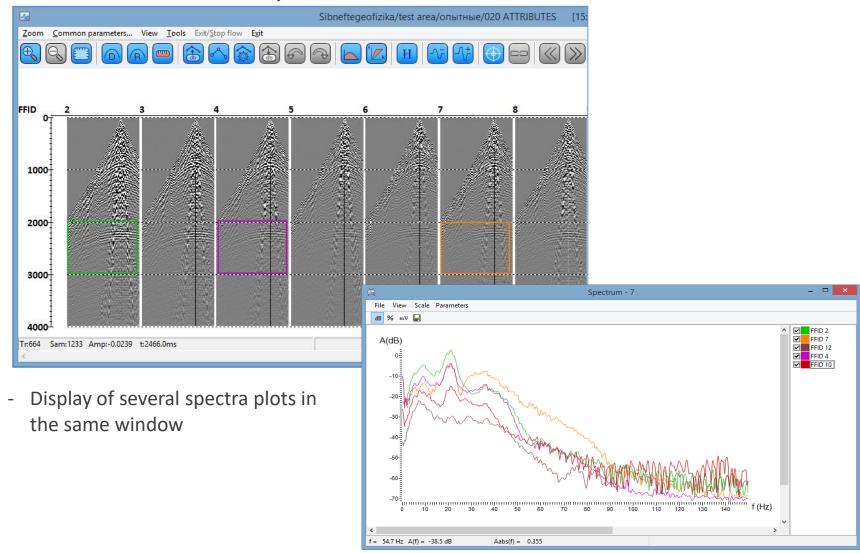




- Any ways of data display
- View of every N-th gather
- Check headers of any trace
- Display header value diagrams
- View frequency and F-K spectrums of arbitrary data fragments

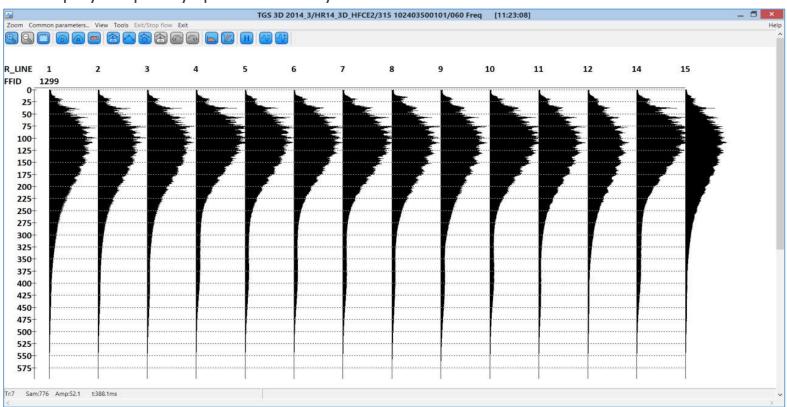




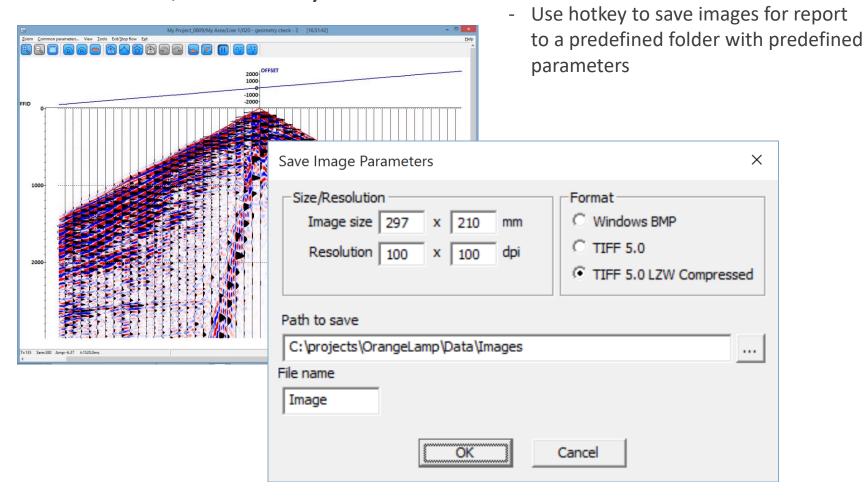




- Display frequency spectra of every N-th channel

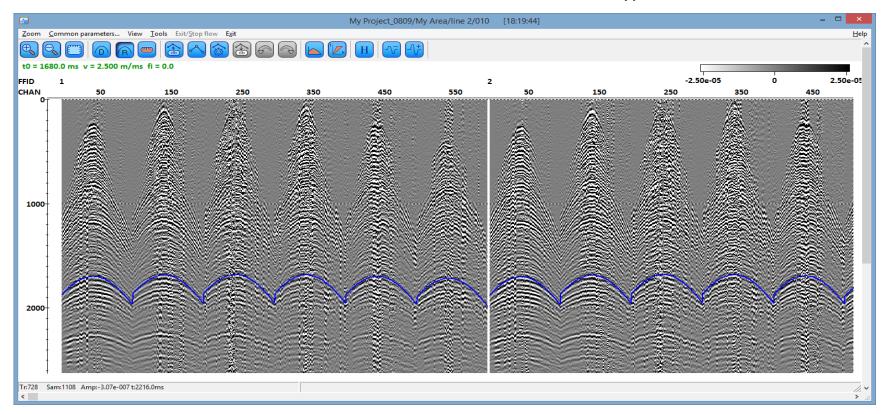








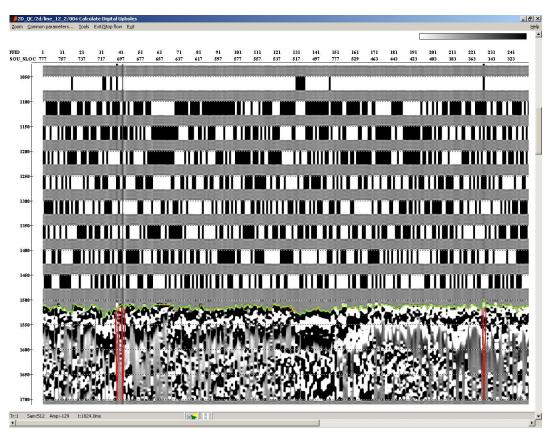
- Interactive estimation of seismic velocities of all wave types





## **Analysis of auxiliary channels**

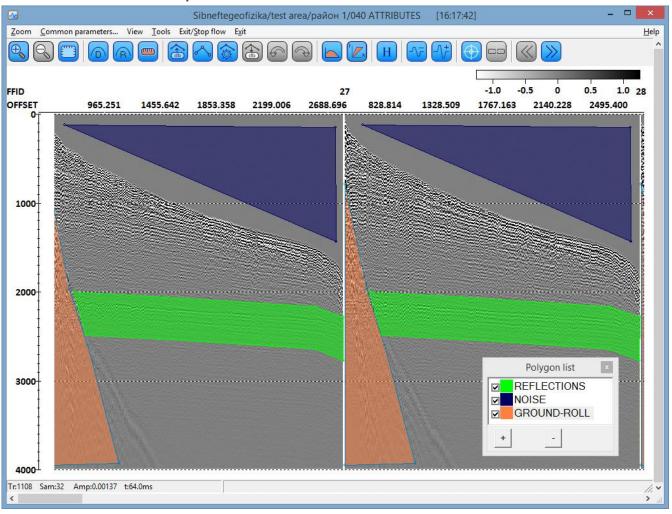
 "Digital" uphole time calculated from auxiliary channel information plotted on top the uphole geophone record





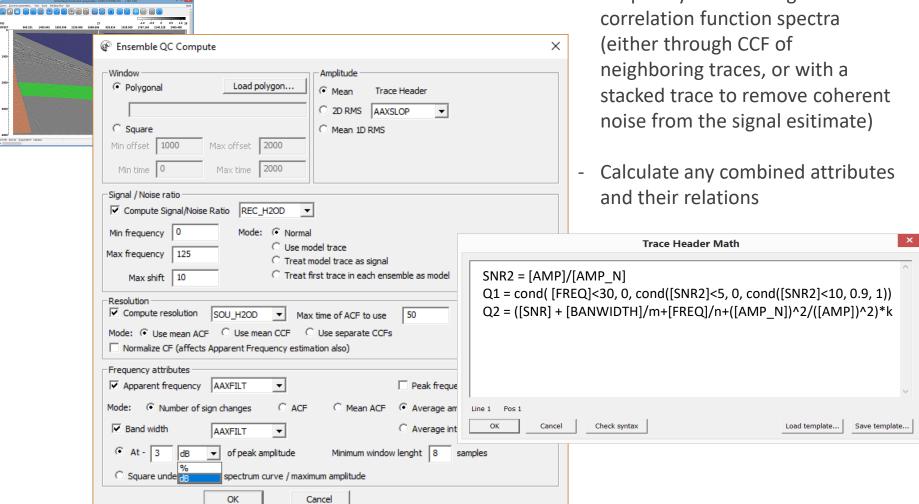
### QC attribute calculation for seismic gathers (either source of receiver gathers)

- Interactively define windows for attribute calculation





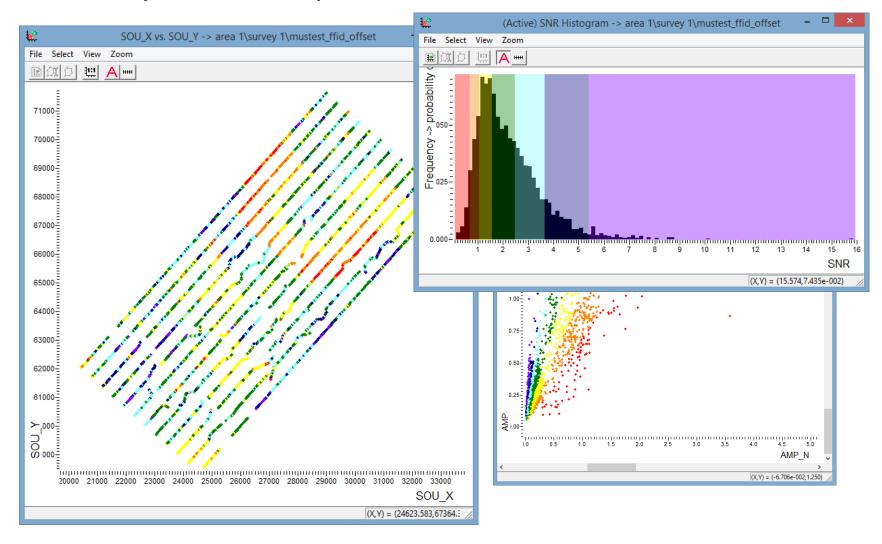
# QC attribute calculation for seismic gathers (either source of receiver gathers)



- Evaluate amplitude and frequency attributes individually for each window
- Calculate SNR within a specified frequency band basing on



#### Attribute analysis on linked cross-plots

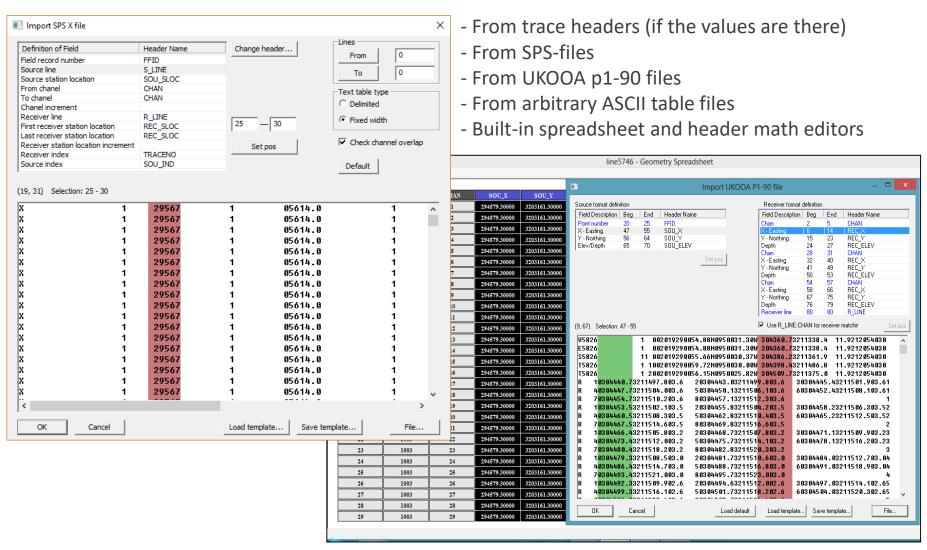




# **Infield Processing**

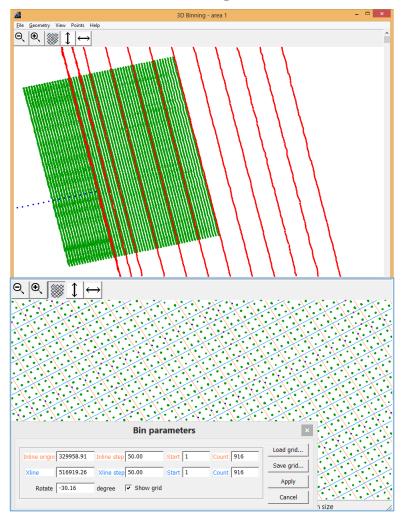


#### Handy and flexible geometry assignment tools

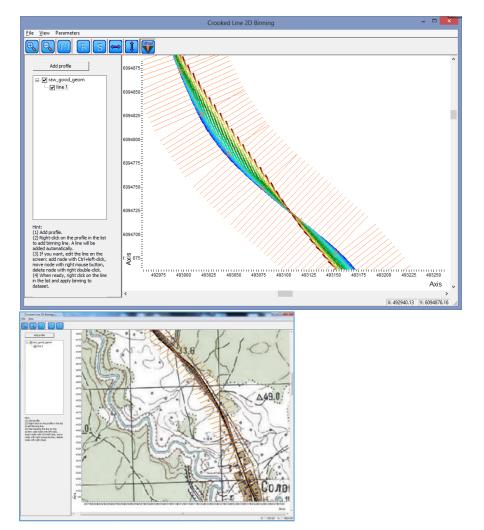




# **Interactive CMP binning**



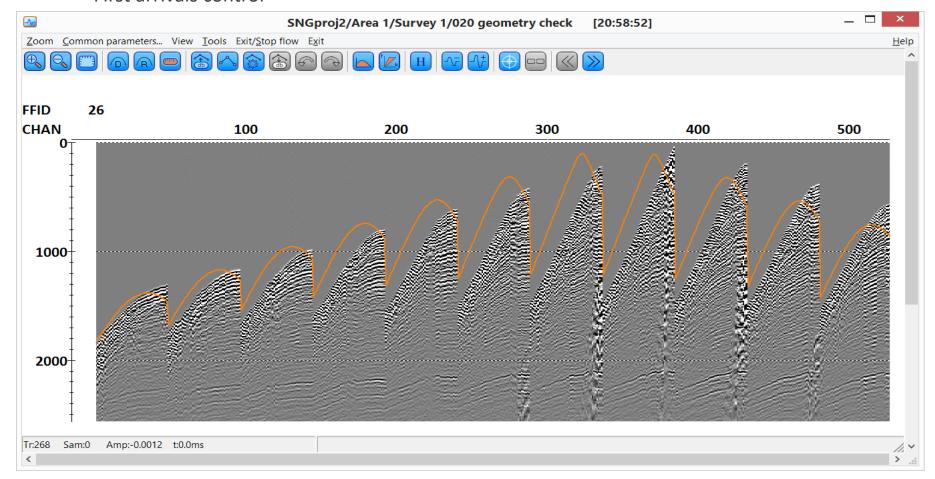
- 3D
- Crooked line 2D





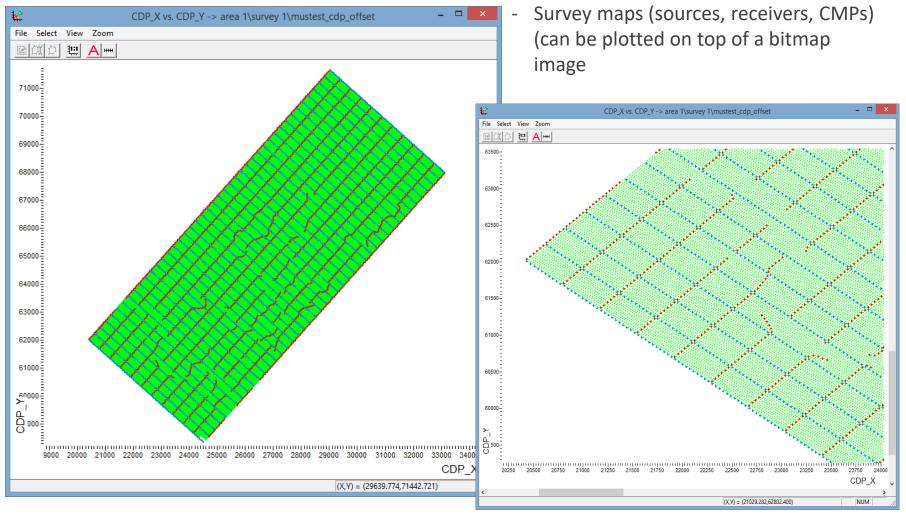
### **Geometry QC**

- First arrivals control



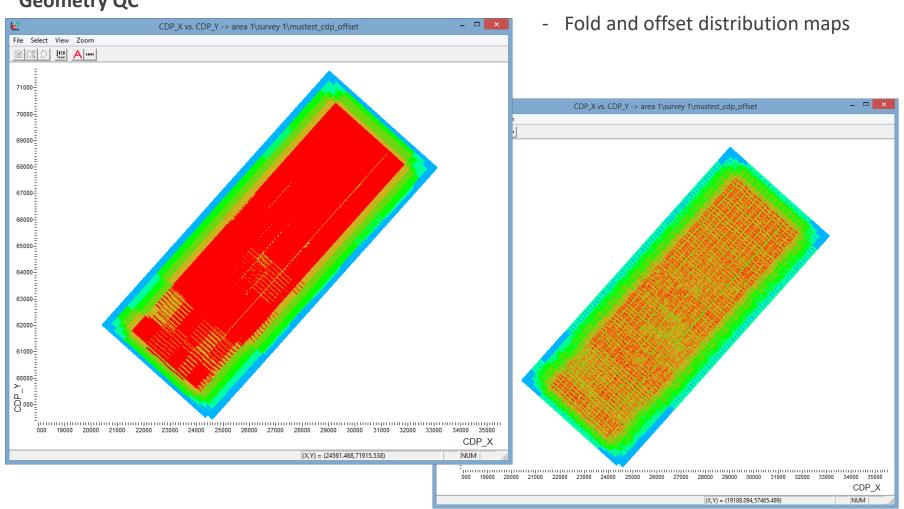


#### **Geometry QC**





#### **Geometry QC**





#### **Fast-track processing**

#### Complete set of industry-standard algorithms

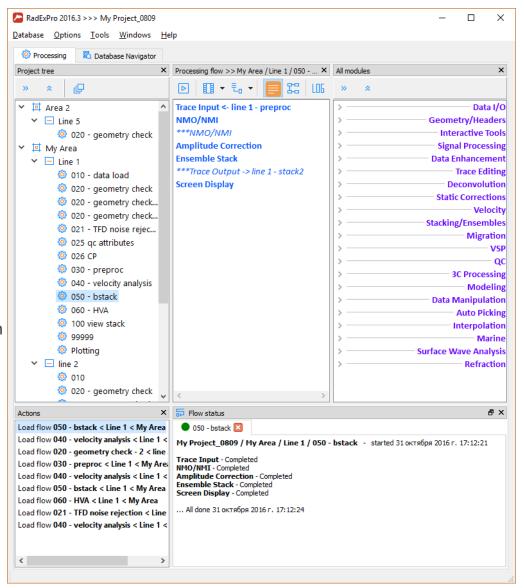
Vibroseis correlation, trace editing, band-pass and 2D filtering, ground-roll suppression, amplitude correction, deconvolutionms, interactive velocity analysis, statics, NMO-correction, DMO, stacking, migrations, etc.

#### Handy data management tools

- -Processing in projects, data is stored together with processing parameters.
- -Processing history is available for each dataset.

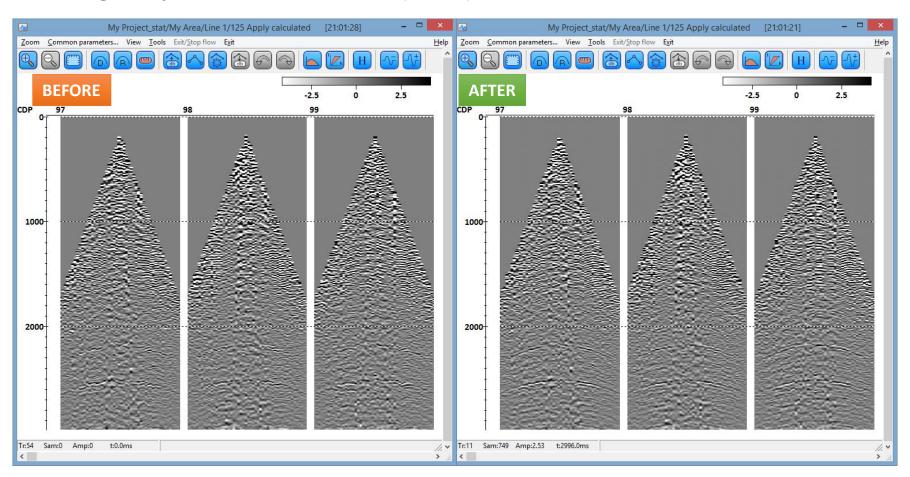
#### Efficiently handle data of any size

- -Framed mode of flow execution.
- -Fast resorting of big data volumes.
- -Parallelization up to 4 queues to run in parallel



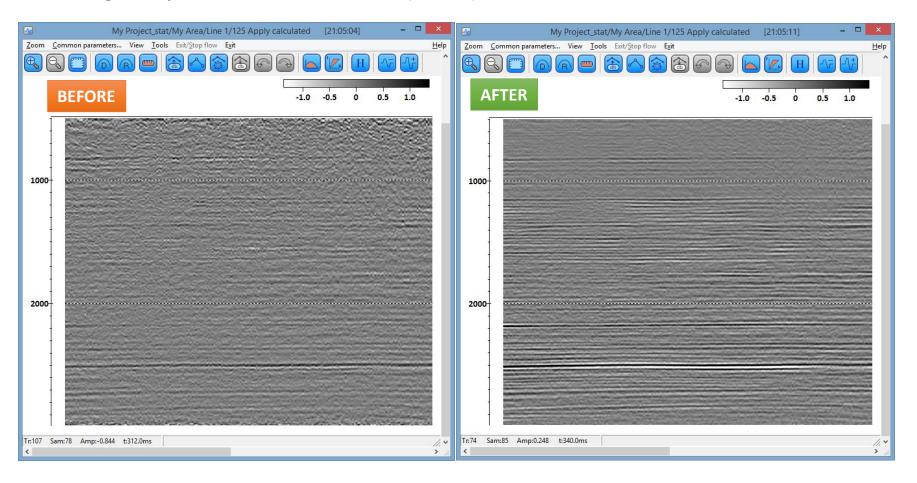


#### Processing example: MaxPower autostatics (2D, 3D)



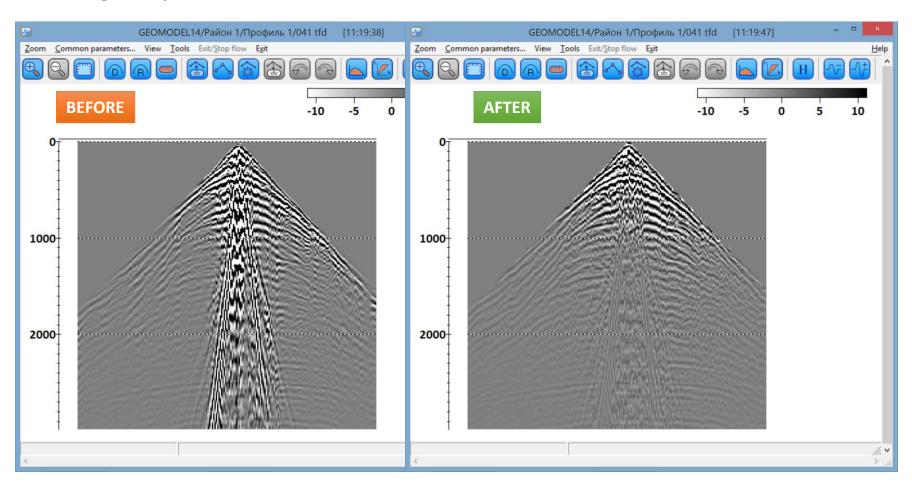


#### Processing example: MaxPower autostatics (2D, 3D)



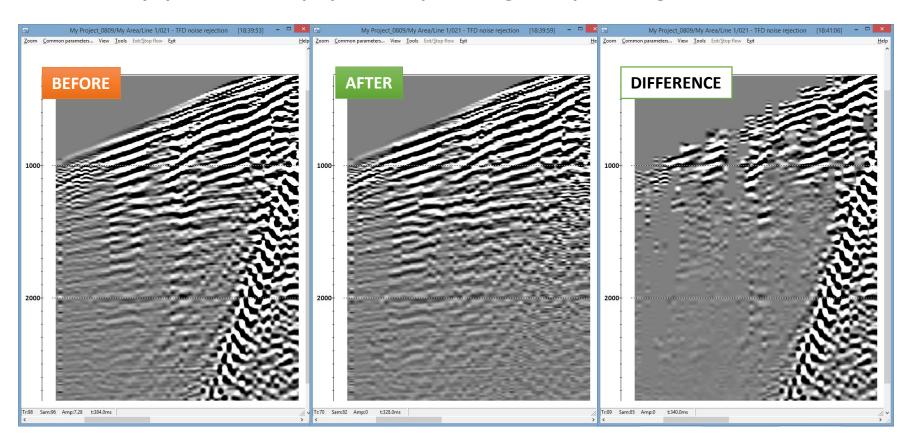


#### **Processing example: TFD Noise Attenuation**



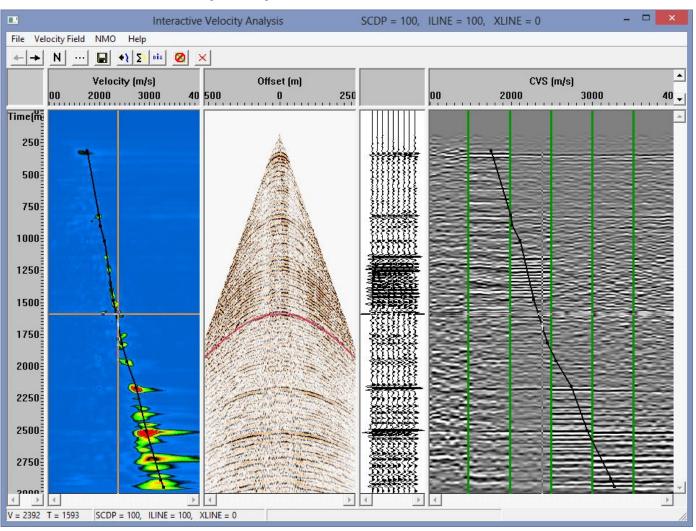


# Automatically synchronized displays: before processing, after processing and the difference



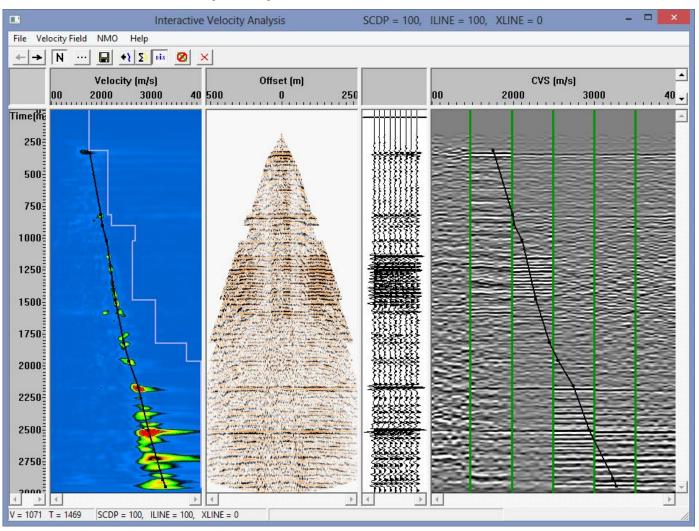


#### **Interactive Velocity Analysis**



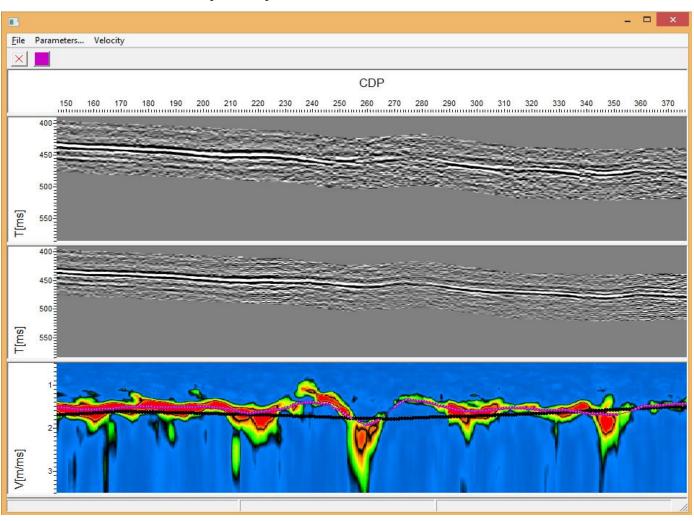


#### **Interactive Velocity Analysis**



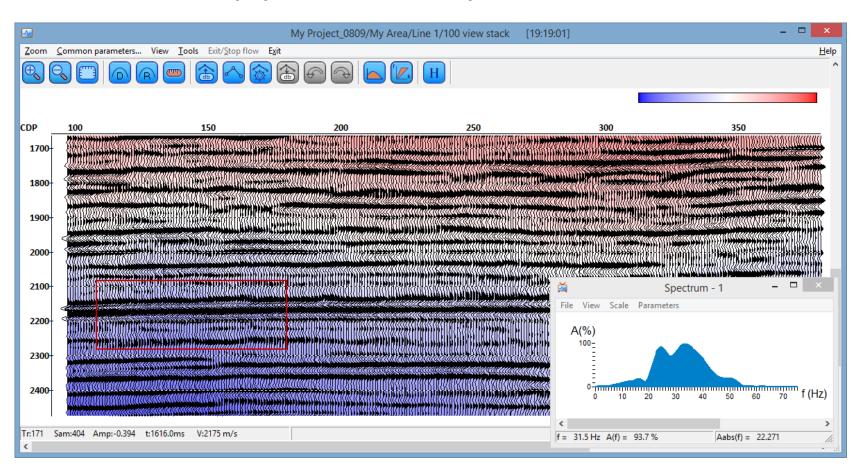


# **Horizontal Velocity Analysis**



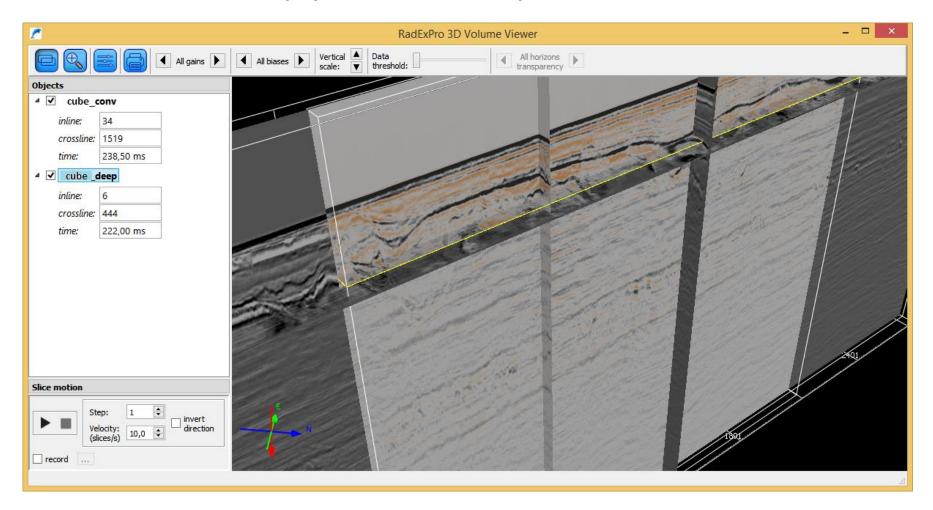


#### Simultaneous display of seismic and velocity sections

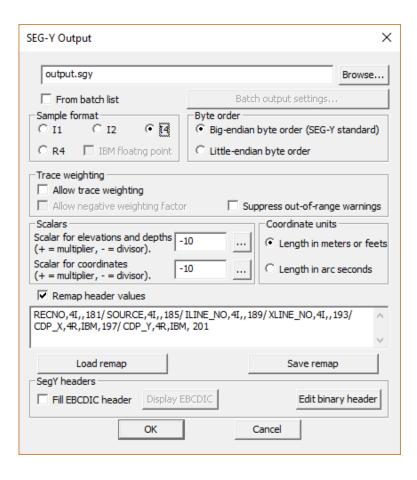




# Simultaneous display of seismic and velocity sections

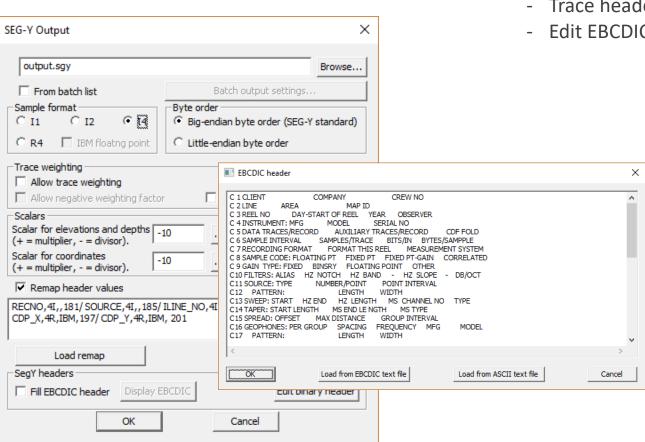






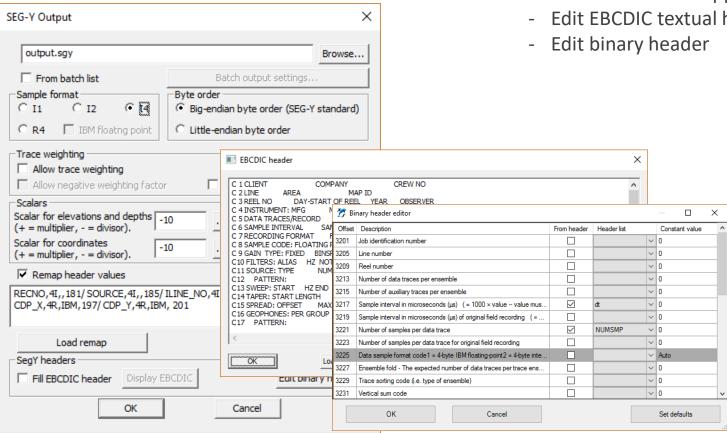
- Any sample format and byte order
- Trace header remapping





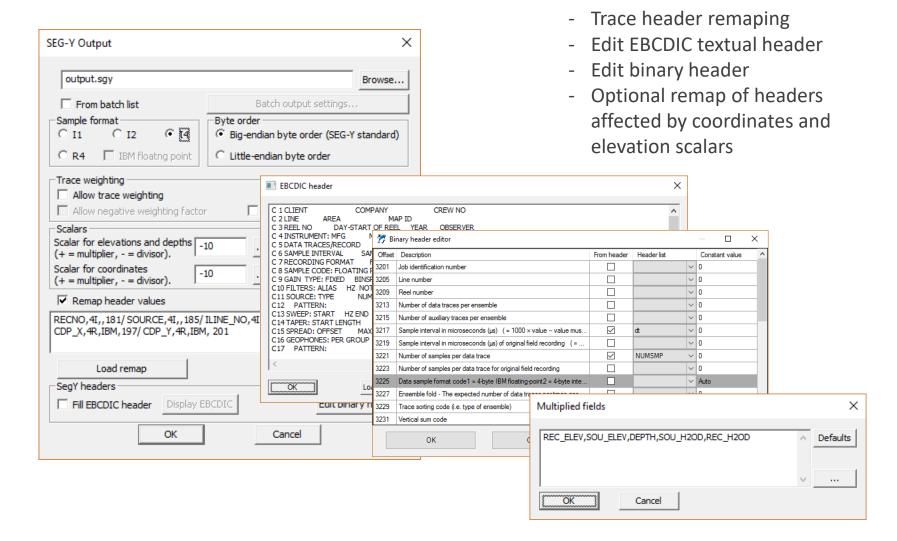
- Any sample format and byte order
- Trace header remapping
- Edit EBCDIC textual header





- Any sample format and byte order
- Trace header remapping
- Fdit FBCDIC textual header



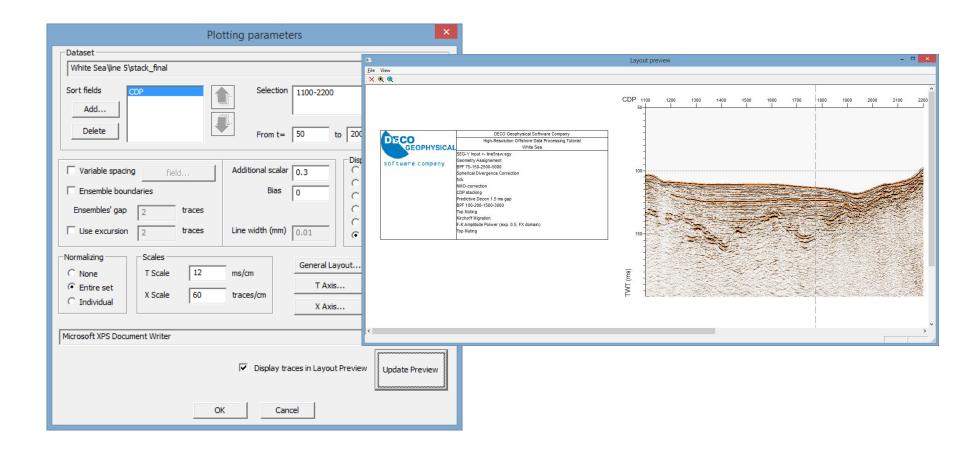


- Any sample format and byte

order

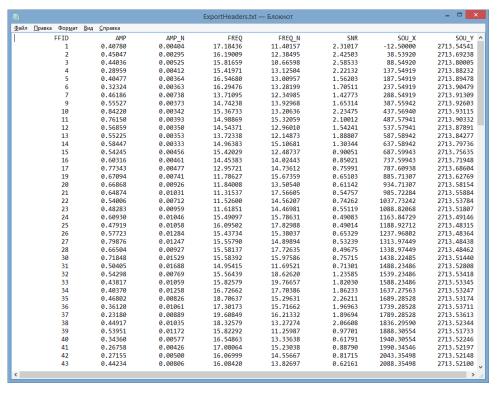


#### **Deliverables: print with preview!**

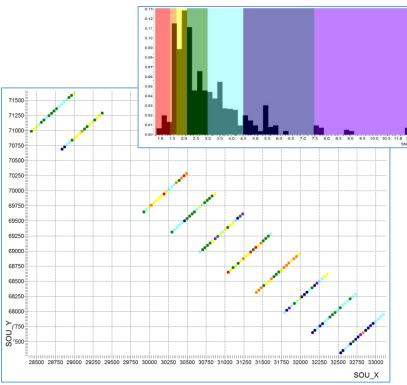




#### **Deliverables: attributes and coordinates**



- Export to ASCII
- Print and save images from crossplots





#### **Open architecture**

# Missing some specific algorithm? Code it yourself and get it integrated into the system!

We provide open API for developing your own modules on C++.

A dedicated Wizard for MS Visual C++ will generate an empty processing module for you, you will only need to populate it with your own processing code.



# Contact Us:



E-mail: <u>sales@radexpro.ru</u> / <u>support@radexpro.ru</u>

Internet: <a href="https://www.radexpro.com">www.radexpro.com</a>

Tel: +7 495 532 76 36

MSU Science Park, Leninskie Gory 1-77 119234, Moscow, Russia