

Frequently Asked Questions

1. What are the industry solutions offered by 3mensio Medical Imaging?

3mensio offers the following industry solutions:

- ▶ SDK
- ▶ Integrated Solutions
- ▶ Customized Solutions

2. What is the SDK?

The SDK is a software development kit that allows companies to quickly develop advanced visualization applications based on 3mensio's core technology. It includes technical documentation, helper files accompanied by tutorials and samples for rapid time-to-market.

3. What language does the SDK utilize, support etc.?

The SDK is a standard Microsoft .NET component, with the addition of native COM interfaces, enabling easy access through C#, C++ (*both managed and unmanaged*), Visual basic and Java. The SDK works with Direct X 9.0.

4. Is the SDK hardware bound? Uses Proprietary hardware?

No, the SDK uses standard COTS hardware, just like all 3mensio applications.

5. What is the .NET component comprised of?

3mensio uses non-dotfuscated, strong-named assemblies that reference the core rendering technology assemblies, e.g.:

- ▶ 3mensio.SDK
 - ▶ Interface definitions
- ▶ 3mensio.SDK.Local
 - ▶ Local rendering framework implementation
- ▶ 3mensio.SDK.Math3D
 - ▶ Matrix, vector, etc.
- ▶ 3mensio.SDK.Toolbox
 - ▶ Viewports
 - ▶ Layouts
 - ▶ Cameras
- ▶ 3mensio.SDK.Interaction
 - ▶ Mouse handling

6. What kind of supporting documentation is available to assist me with the SDK?

- ▶ The SDK technical document
- ▶ Each assembly contains low-level documentation of every public interface, function and type in the form of a .chm help file
- ▶ Samples written in C# to demonstrate different aspects of the SDK
- ▶ Tutorials

7. How does the SDK handle error reporting?

- ▶ 2 methods
 - ▶ Through the SDK log file, for errors that occur in the SDK itself
 - ▶ By throwing exceptions for situations that can be regarded as user errors, such as passing invalid data to the SDK

8. Is there an established mechanism to report bugs?

Yes, with a support care agreement.

9. Does the SDK provide for both 3D and 2D viewing?

Yes, both.

10. Does the SDK provide visualization only?

The SDK originated out of a market need. Initially this was to provide rendering e.g., visualization. As the market is maturing, so does the need for a more robust SDK. 3mensio usually provides 2 releases per year and roadmap advanced analysis for inclusion within the SDK.

11. What render modes are included?

- ▶ MPR
- ▶ Volume Rendering
- ▶ MIP
- ▶ AIP
- ▶ CMPR

12. What is CMPR?

A curved MPR rendering is generated by intersecting a curve manifold with the volume. The basis for this manifold is a curve in calibrated space, from which the manifold itself is generated in one of two ways: stretched and unwrapped.

13. The SDK has an assembly called toolbox? What is it?

It contains tools to help you IMPLEMENT medical imaging components. In the current version these tools are subdivided into 4 categories:

- ▶ Viewport and control layout tools
- ▶ Orthographic and Perspective camera implementations
- ▶ Connective volume rendering parameterizations
- ▶ Pre-defined viewports with built in volume renderers

14. What kind of licensing arrangement do I get when purchasing the SDK?

The SDK has two pricing components: fixed and variable.

- ▶ Fixed (*SDK Developers License*) – a one-time fee for use of the SDK
- ▶ Variable (*Run-Time License*) – per-use technology license fee

15. Does the SDK validate graphic cards?

Yes, it provides precision checks and shader validation. As this is quite a time-consuming process, we enable the user to store the results, so the validation does not have to be done every time the application starts. Changing the card or the driver will trigger a re-validation.

16. If I have my data in memory, do I have to duplicate it to pass it to the SDK?

No! No unnecessary data copy is required. In addition, the SDK supports different quality modes and scales to available resources. We have dynamic and static quality modes. Basically you use dynamic during interaction, and static when interaction is finished and you just need a high quality rendering. In dynamic mode, the SDK will make sure that you only need one render pass to draw all visible viewports. It does this by subsampling the dataset if necessary, to make all data fit into memory. In static mode, the SDK guarantees that all your volume data will be drawn, even if multiple render passes are needed.

17. What then is Integrated Solutions? Custom Solutions?

- ▶ Integrated Solutions are building blocks pre-developed by the 3mensio R&D department so that you can essentially plug in a viewport with the rendering type you desire.
- ▶ Customized Solutions are meant to develop applications from the ground up by 3mensio based on your specs.

18. Are there standard release dates for updates/upgrades?

Yes, updates to the SDK are released twice a year.

19. Can I trial the SDK Kit?

Yes, please contact the OEM Sales Manager for additional information.

20. Does your ability to load large datasets depend on the amount of GPU memory?

The short answer is: We are able to load 1K³ data no matter how much GPU memory there is, but the program will perform better with larger amounts of memory.

21. What happens if users want to see 2 or more datasets at the same time?

The SDK will handle multiple volume datasets just fine (*depending on available memory and dataset size of course*). One example of their use would be to overlay them in 2D, as for example in PET / CT fusion MPR views. Another example would be if the multiple datasets were considered separate frames of an animating, in other words, the SDK supports 4D data viewing.

22. Does the SDK use DirectX 10?

No. The SDK is built using DirectX 9. Any part of the SDK that were to use DirectX 10 would not work on Windows XP, which does not support DirectX 10. We are able to provide all the functionality you need using DirectX 9. Of course, the SDK also works on computers on which DirectX 10 is installed.

23. Does the SDK support OpenGL?

The SDK uses DirectX but not OpenGL. However, if you have some existing code using OpenGL, it can co-exist with the SDK. You will not be able to use OpenGL to render into the same viewport, but you can use it to render into other viewports or perform GPGPU computations.

24. What operating systems does the SDK support?

Windows XP and Vista; 32 and 64-bit.

